



UNIVERSITY OF ILLINOIS
LIBRARY

REMOVAL STORAGE

Class
625.7

Book
B65

Volume
1909/10

F 11-20M



COMPLIMENTS OF . . .

L. K. ROURKE,

Superintendent of Streets.

PLEASE EXCHANGE.

ANNUAL REPORT

OF THE

STREET DEPARTMENT

FOR THE

YEAR 1909



CITY OF BOSTON
PRINTING DEPARTMENT

1910

2257

365

225/10.

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED

REMOTE STORAGE

CONTENTS.

PART I.

REPORT OF THE SUPERINTENDENT OF STREETS.

	PAGE		PAGE
Appropriations.....	2	Financial statement.....	21
Areas of pavements.....	24	General review.....	3
Changes in pavements.....	25	Lamps, tests of.....	13
Contracts, hired teams (between pages 21, 22).		Length of pavements.....	26
Districts, description of.....	28	Organization.....	1
Expenditures:		Rainfall.....	22
Bridge specials.....	19	Snowfall.....	22
Highways, making of.....	19	Snow, volume and cost of...	23
Maintenance.....	19	Street mileage.....	27
Paving specials.....	19	Work done:	
Separate systems of drain- age.....	19	Ferry Division.....	4
Sewerage works.....	19	Highway Division.....	5
Street improvements.....	19	Lamp Division.....	8
Recapitulation.....	20	Sanitary Division.....	15
Comparative table (main- tenance, between pages 21, 22).		Sewer Division.....	17
		Boston and Cambridge Bridges.....	19

PART II.—APPENDIX A.

REPORT OF THE DEPUTY SUPERINTENDENT OF THE FERRY DIVISION.

(PAGE 33.)

	PAGE		PAGE
Contracts.....	45	Comparison of appropri- ations, receipts and expend- itures (5 years).....	37
Difference in travel between ferries.....	43	Comparative balance sheet (5 years).....	40
Expenditures and receipts since 1858.....	41	Receipts at each ferry.....	42
Ferryboats.....	34	Property in charge of divi- sion.....	33
Financial statement.....	35	Ticket statement.....	44
Appropriations, operations, receipts and expenditures,	35	Total travel between ferries,	44
Balance sheet.....	36		

APPENDIX B.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE HIGHWAY DIVISION.

(INCLUDING BRIDGE SECTION.)

(PAGE 46.)

	PAGE		PAGE
Appropriations (special).....	58	Maintained by Metropol-	
Bridges rebuilt.....	50	itan Park Commission..	62
Drawbridges repaired.....	52	Maintained by railroad	
Drawtender's report.....	73	corporations.....	62
Expenditures.....	55	Of which Boston main-	
Financial statement.....	55	tains the part within its	
General review.....	50	limits.....	61
Income.....	58	Of which Boston pays a	
Inland bridges repaired.....	54	part of the cost of main-	
List of Bridges:		taining.....	61
In charge of Highway		Of which Boston main-	
Division, bridge serv-		tains the wearing surface,	62
ice.....	59	Recapitulation.....	64
In charge of Park Depart-		Property in charge of divi-	
ment.....	60	sion.....	65
In charge of Public		Small bridges or culverts....	66
Grounds Department...	61	Recommendations.....	51
Maintained by Charles		Rules governing opening of	
River Basin Commis-		bridges.....	68
sion.....	62	Width of bridge openings...	67

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE HIGHWAY DIVISION.

(PAVING SECTION.)

(PAGE 74.)

	PAGE		PAGE
Areas and coal vaults.....	212	Summary of all asphalts....	248
Asphalting, Trinidad Lake..	226	Asphalt, cost of patching,	
Asphalting, Trinidad Lake,		ten years:	
summary.....	237	Trinidad Lake.....	215
Asphalting, Sicilian rock....	238	Sicilian rock.....	222
Asphalting, Sicilian rock,		Seyssel rock.....	225
summary.....	243	Other asphalts.....	225
Asphalting, Seyssel rock....	244	Assessment streets, work	
Asphalting, Bermudez.....	245	done on.....	80
Asphalting, Acme.....	246	Bitulithic pavement:	
Asphalting, American rock..	247	Streets paved with bitu-	
Asphalting, Limmer rock....	247	lithic.....	249
Coal tar compositions.....	248	Summary of bitulithic....	252

	PAGE		PAGE
Bonds for permits.....	212	Streets:	
Brick block pavement.....	256	Paved with granite blocks	
Cement pavement.....	256	on concrete base.....	74
Contracts.....	261	Paved with asphalt on con-	
Thresher plants.....	48	crete base.....	76
Dirt and street cleanings		Paved with wood blocks on	
removed	209	concrete base.....	78
Electric light poles.....	212	Paved with brick blocks on	
Expenditures, detail of:		concrete base.....	79
Highways, making of.....	95	Summary of all smooth pave-	
Hyde Park avenue.....	95	ments.....	257
Old Colony avenue.....	95	Work done:	
Street improvements.....	95	General law streets.....	89
Expenditures, objects of....	97	By contract, summary....	93
Financial statement.....	94	By day labor, summary...	94
General review.....	46	Charged to regular and	
Income.....	95	street improvements ap-	
Macadam streets, mainte-		propriations.....	100
nance of	207	Charged to highways, mak-	
Miscellaneous agreements...	276	ing of	151
New brick sidewalks.....	208	By department force, detail	
New edgestones.....	208	of (between pages 193,	
New edgestones by districts,	209	194).	
Notices.....	213	Charged to regular and	
Personal property.....	49	street improvements ap-	
Plans.....	213	propriations, recapitula-	
Property in charge of divi-		tion of	194
sion.....	258	Charged to highways, mak-	
Sidewalks.....	47	ing of, recapitulation of,	205
Sidewalk defects.....	213	Wood blocks:	
Snow and ice.....	210	Streets paved with wood	
Steam rollers.....	49	blocks.....	253
Street numbering.....	214	Summary of wood blocks,	255
Street opening.....	211	Yard and wharf room.....	49

APPENDIX C.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE LAMP DIVISION.

(PAGE 281.)

	PAGE		PAGE
Arc lamps, total cost per		Employees.....	306
lamp per annum.....	288	Expenditures.....	306
Contract for electric light-		Incandescent lamps, total	
ing.....	308	cost per lamp per annum..	289
Contract for lighting with		Lighting schedule.....	303
gas and naphtha.....	315	New gas lamps by wards...	290

	PAGE		PAGE
New fire-alarm lamps by wards.....	295	Number and style of lamps, January 1, 1910.....	290
New magnetite arc lamps by wards.....	295	Outages on street lamps....	303
New flame arc lamps by wards, 298		Rebates.....	304
New Gilbert arc lamps by wards.....	298	Revenue.....	308
New tungsten lamps by wards, 299		Total cost of gas lamps per lamp per annum.....	286
Number of gas lamps.....	284	Underground work.....	305
Number of naphtha lamps..	287	Work done.....	283
Number of electric lights...	287	Work in charge of division..	281

APPENDIX D.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE SANITARY DIVISION.

(SANITARY SECTION.)

(PAGE 323.)

	PAGE		PAGE
Ashes, collected by contract, number of loads.....	332	Collected by districts.....	333
Carts, capacity of.....	332	Cost of collecting and disposing of refuse by contract.....	334
Carts, Number of.....	339	Cost of collecting and disposing of refuse by day labor (between pages 334, 335).	
Contracts.....	336	Number of loads of material collected from February 1, 1904, to January 7, 1910.....	331
Employees, average number, 331		Amount expended on offal, ashes and rubbish by districts.....	329
Expenditures, items of.....	325	Weight of materials.....	332
Financial statement.....	323	Final disposition of all material.....	333
Force employed on waste and rubbish.....	331	Property in charge of division.....	340
Force employed on house offal.....	330	Repairs.....	338
Force employed on house dirt and ashes.....	330	Revenue.....	324
Horses cared for.....	331	Shops.....	326
Horseshoeing.....	328	Snow, summary and cost of,	342
Maintenance, Fort Hill Wharf, 335			
Materials:			
Ashes and house dirt removed (5 years).....	330		
Garbage removed (5 years).....	331		
Waste and rubbish removed (5 years).....	330		

REPORT OF THE DEPUTY SUPERINTENDENT OF THE SANITARY DIVISION.

(STREET CLEANING AND WATERING SECTION.)

(PAGE 343.)

	PAGE		PAGE
Contracts.....	350	Push-cart patrol, cost of....	354
Contracts for watering carts,	351	Property in charge of divi-	
Cost of teaming and labor,		sion.....	349
by months.....	357	Rolling stock, distribution of,	351
Employees, distribution of,	346	Snow work.....	351
Expenditures, items of.....	346	Streets:	
Financial statement.....	343	Cleaned, miles of.....	348
Flushing streets.....	352	Treated with calcium	
Hay, straw, oats, etc.,		chloride.....	352
amount used.....	355	Treated with oil.....	358
Horses, distribution of.....	351	Watered, cost by districts,	356
Horses, cost of maintaining..	354	Swept by machines (be-	
Push-cart patrol.....,.....	353	tween pages 358, 359).	

APPENDIX E.

REPORT OF THE DEPUTY SUPERINTENDENT OF THE SEWER DIVISION.

(PAGE 359.)

	PAGE		PAGE
Average daily pumping at		Separate systems of drain-	
Moon Island.....	458	age.....	382
Catch-basins built.....	396	Financial statement.....	361
Catch-basins cleaned by		Horses, cost of maintaining..	397
contract.....	370	Land-takings.....	376
Coal contracts.....	369	Machinery hired, rates paid	
Contracts:		for.....	397
Cleaning catch-basins....	447	New catch-basins built by	
Cleaning sewers.....	448	contract.....	380
Pile driving.....	446	New catch-basins built,	
Repaving and regulating..	446	charged to sewerage works,	377
Sewers and drains.....	398	New catch-basins built,	
Miscellaneous.....	451	charged to separate sys-	
Entrance fees, permits and		tems of drainage.....	393
assessments.....	396	New manholes.....	381
Expenditures:		Property in charge of division,	459
Detail of.....	371	Pumps, Calf Pasture pump-	
Maintenance.....	362	ing station, average lift	
Maintenance table (be-		and duty.....	454
tween pages 362, 363).		Pumping, average cost per	
Recapitulation of.....	368	million foot gallons.....	455

	PAGE		PAGE
Refuse from filth-hoist.....	459	Sewers and surface drains	
Regulators, gates, etc., cared		built by city charged to	
for.....	457	separate systems of drain-	
Repairs on No. 5 pump.....	456	age.....	383
Schedule of sewers built to		Sewers cleaned by contract	
date.....	453	(between pages 458, 459).	
Sewers built by day labor by		Summary of sewer con-	
districts, character, cost of,		struction (12 months).....	453
etc. (between pages 370, 371).		Summary of sewer con-	
Sewers built by contract by		struction (5 years).....	454
districts, character, cost of,		Sludge account.....	458
etc. (between pages 370, 371).		Work in charge of division...	359

APPENDIX F.

REPORT OF THE COMMISSIONERS OF BOSTON AND CAMBRIDGE BRIDGES.

(PAGE 460.)

	PAGE		PAGE
Bridges in charge of com-		Income.....	462
mission.....	460	Recommendations.....	461
Draw openings.....	464	Work done.....	460
Expenditures.....	463		

APPENDIX G.

REPORT OF THE CIVIL SERVICE CLERK.

(PAGE 465.)

	PAGE		PAGE
Comparative table show-		Requisitions.....	465
ing number of employees..	469	Transfers.....	465
Grade and number of em-			
ployees.....	467		

APPENDIX H.

FORMER SUPERINTENDENTS AND DOCUMENT NUMBERS OF ANNUAL REPORTS.

(PAGE 470.)

ANNUAL REPORT
OF THE
STREET DEPARTMENT
FOR THE
YEAR ENDING JANUARY 31, 1910.

BOSTON, February 7, 1910.

HON. JOHN F. FITZGERALD,
Mayor of the City of Boston:

SIR,—In compliance with the Revised Ordinances, the annual report of the operations and expenses of the Street Department for the year ending January 31, 1910, is herewith respectfully submitted.

ORGANIZATION.

The work of the department has been carried on during the year according to the provisions of chapter 3 of the Ordinances of 1908 with five subdivisions, the former Bridge and Paving Divisions having been combined into the present Highway Division, and the former Street Cleaning and Watering Divisions being combined with the Sanitary Division to form the present Sanitary Division. The several divisions at present are as follows:

Central Office.
Ferry Division.
Highway Division.
Lamp Division.

Sanitary Division.
Sewer Division.
Boston and Cambridge
Bridges.

NOTE.—The Boston and Cambridge Bridges Division, so called, is not properly a division of the Street Department, as this work is in charge of a commission of two, one member appointed by the Mayor of Boston and the other by the Mayor of Cambridge, under the provisions of chapter 467 of the Acts of 1898 and chapter 412 of the Acts of 1904; but on account of the fact that the present Superintendent of Streets is the Boston member of this commission and also because one-half of the expenses of this commission is defrayed by the Highway Division (Bridge Division appropriation) of this department, it is here treated as a division of this department.

APPROPRIATIONS.

The money assigned for the work of the Street Department during the year was made available from the following sources:

First.—Maintenance appropriation, derived from the income of the city raised by taxation. Before the commencement of each financial year, February 1, the department estimates of the amounts necessary for the proper maintenance of the various divisions are submitted to the Mayor, who makes such recommendations as he may deem proper to the City Council. The maintenance appropriations, including permanent construction, as passed by the City Council and approved by the Mayor, were as follows:

Central Office	\$22,782 00
Ferry Division	230,000 00
Highway Division:	
Bridge Division	223,786 00
Paving Division	1,150,000 00
Lamp Division	800,000 00
Sanitary Division:	
Sanitary Division	663,000 00
Street Cleaning and Watering Division	605,000 00
Sewer Division	350,000 00
Boston and Cambridge Bridges	*

Second.—Loan inside the debt limit for building new streets assessable on abutting property, authorized by chapter 393 of the Acts of 1906. (Highway Division.)

Amount expended during the year \$123,673 91

Third.—Loans inside the debt limit under the provisions of chapter 426 of the Acts of 1897, as amended by chapter 204

* Paid by Highway Division (Bridge Division appropriation).

of the Acts of 1908, from which all sewerage works are built, except those in the Charles River Basin watershed. (Sewer Division.)

Balance February 1, 1909		\$51,295 77
Loan		300,000 00
Total		\$351,295 77
Expended during the year		324,165 73
Balance February 1, 1910		<u>\$27,130 04</u>

Fourth.— Loan under the provisions of chapter 383 of the Acts of 1903, as amended by chapter 485 of the Acts of 1907 and by chapter 514 of the Acts of 1908, authorizing the expenditure in each of the years from 1908 to 1912, inclusive, of one-twentieth of one per cent of the city's taxable valuation on the separate system of drainage. (Sewer Division.)

Balance February 1, 1909		\$231,623 71
Loan		664,000 00
Total		\$895,623 71
Expended during the year		582,162 57
Balance February 1, 1910		<u>\$313,461 14</u>

GENERAL REMARKS.

During the year the department has been reorganized into five divisions in place of seven as for the previous year, the former Bridge and Paving Divisions together forming the Highway Division and the former Street Cleaning and Watering Division being combined with the former Sanitary Division into the new Sanitary Division. This arrangement has seemed to increase the efficiency in both cases, and especially so in the case of the Sanitary Division.

Approximately the same number of employees have been retained in the labor force as for the previous year. Lower unit prices, however, have been secured for work and a marked increase of efficiency has been noticeable during the year. The large proportion of aged and otherwise inefficient employees still continues in the department, constituting an economic waste that means should be taken to remedy. It is to be hoped that some relief may be obtained by the passage of pension legislation, now pending before the General Court.

The same proportion of contract and day labor work has been continued that existed during the previous year, but the policy of hiring teams by contract has been extended to the hiring of watering carts in the Sanitary Division, with apparently good results. Although there is no doubt regarding the economy and efficiency of hiring teams by contract, as compared with the former method of employing teams from favored contractors for various reasons, the department has been somewhat annoyed by the fact that some of the lowest bidders were in the business in a very small way and were financially not as responsible as could be desired. It is probable that an improvement could be made by limiting the competition to such contractors as are actually the owners of sufficient teams to supply all reasonable needs of the service and by adopting more rigid specifications for teams furnished. More or less annoyance has been occasioned by the default of contractors having small contracts for the collection of refuse, and better results would probably be obtained by confining the competition to contractors of demonstrated efficiency or greater financial responsibility.

The contract system has also been extended to the cleaning of macadam streets in the suburban districts of Dorchester, West Roxbury and Brighton, with excellent results, more efficient work being done, at a greatly reduced price, than by day labor work.

During the year accounts in the various divisions have been so kept as to furnish a greater amount of detail and statements of unit costs than were available for the report of the previous year.

FERRY DIVISION.

Appropriation and revenue	\$230,000 00
Expenditures	222,101 10
Unexpended balance	\$7,898 90
Transferred to city treasury	<u>\$7,898 90</u>

The Ferry Division has been continued along the lines of former years, and a marked increase in the efficiency of the force has enabled the division, without material reduction in the number of employees, to finish the year well within its appropriation.

On December 18, 1909, the ferryboat "General Sumner" caught fire accidentally and was very badly damaged. The work of repairing this boat is now in progress, however, and

is being paid for by a special appropriation transferred from another division of the Street Department. The property of the division is in general in good condition, although extended repairs are needed upon the slips upon both sides of the harbor.

Since the building of the East Boston tunnel there has been a great reduction in the number of passengers carried across the ferry. There has, however, been a normal increase in the teaming traffic, and the present service is not as efficient as could be desired. At least two of the boats are very old and out of repair and will have to be replaced by new boats within a short time. Whenever new boats are built they should be designed with the idea of making the transportation of teams the principal object. In my opinion the two-story form of boat would be a desirable one, with provisions for passengers upon the upper deck, allowing the space used for saloon accommodations in the present boats to be utilized for teams, and thereby giving practically twice the accommodation without appreciable increase in operating expenses.

HIGHWAY DIVISION.

Appropriation and revenue, Bridge Division	\$224,781 97
Expenditures	217,317 43
Unexpended balance	\$7,464 54
Transferred to city treasury	<u>\$7,464 54</u>
Appropriation and revenue, Paving Division	\$1,155,155 36
Transferred from Lamp Division	17,503 06
	<u>\$1,172,658 42</u>
Expenditures	<u>\$1,172,658 42</u>

This division was formed at the beginning of the year by a consolidation of the former Paving and Bridge Divisions. It has been under the charge of a single deputy, although the fact of its having separate appropriations for the bridge and paving service rendered the separation of accounts necessary. The consolidation has resulted in considerable financial economy and, in my opinion, in a considerable increase in efficiency.

The appropriation for the Bridge Division has been devoted to the usual running expenses of the bridges and a large number of minor repairs done for the greater part by the day labor force. A small portion of the work, however, has

been provided for by special appropriations, notably, expenditures for repairs on the Granite Avenue Bridge, the Chelsea Street Bridge and the work now in progress on the Neponset Bridge (which was provided for by a transfer to a special appropriation from the Lamp Division).

During the year the Chelsea Street Bridge has been entirely reconstructed by the Engineering Department and will be open for traffic early in 1910, which will require an increase in the appropriation for the ensuing year in order to provide for this service.

Extensive minor repairs are still needed on many bridges, notably in the matter of painting, especially the Charlestown Bridge.

As usual, the expenses for the Boston and Cambridge bridges, of which the City of Boston pays one-half, have been met out of the regular appropriation for the Bridge Division. The operations of this commission will be referred to later in this report.

The paving service of the Highway Division has been conducted on the same lines as in former years. In general, repair work has been done by the day labor force and new work by contract methods. The expenditures for this division, except the expenditures on account of streets laid out under chapter 393 of the Acts of 1906, have been entirely from appropriations from the tax levy. A balance from the special appropriation for street improvements for the preceding year (provided, however, from the tax levy) was available, amounting to \$81,968.83, including revenue. With this exception, street improvements have been paid for from the regular appropriation for the division. The number of the labor force has remained practically the same as for the previous year, and a gratifying increase in efficiency, as shown by the reduction in unit costs, has been effected.

Extensive experiments have been made during the year in the laying of macadam pavements in which some form of bituminous substance, either asphaltic or coal tar compounds, has been utilized as a binder. Such pavements have been laid to the extent of about 80,000 square yards. These pavements have not been in place long enough to determine accurately their qualities, but it seems reasonably sure that this is a much more durable and satisfactory form of pavement in every way than macadam, at a very little greater unit cost per square yard. Various properties affecting such matters, as the accomplishment of necessary repairs, the effect of cold weather and frost, and decomposition from other causes, have yet to be determined. It seems reasonably

certain, however, that this form of pavement should be adopted much more extensively during the ensuing year.

An area of brick pavement, to the extent of 16,605 square yards, has been laid during the year in the Roxbury district. Previous to this year very little brick pavement has been laid in Boston, although it is a common form of pavement in Western cities, and in some of the neighboring cities in New England. It is hoped that this form of pavement will prove satisfactory in such districts as are changing their character from residential districts to manufacturing districts, in which macadam pavement is no longer satisfactory, although the excessive cost of granite or wood block pavement does not yet seem to be justified.

During the year a new form of granite block pavement has been experimented with which, it is hoped, may be adopted as a standard for the future. Since the general use of concrete as a base it has seemed that the conventional granite block used in Boston, with its depth of 8 inches, contained an excessive amount of granite, and the depth rendered it impracticable to prepare the vertical faces in such a manner as to lay with a close joint. A block of approximately 5-inch depth, with the same wearing surface, has been laid to the extent of 12,000 square yards on Massachusetts avenue, with a maximum joint of $\frac{1}{2}$ inch. This has given a very satisfactory form of pavement, of greater smoothness than the previous standard, and it is anticipated that the close joints will obviate the rounded corners now so common, and also prevent to a great extent the noise from granite blocks. It is also anticipated that a softer quality of granite than has previously been used may be used, thereby offering a more gritty surface and better foothold for horses than the hard granite previously used, which will wear to a smooth, polished surface under the traffic.

Although the authority for laying out streets does not in any way rest with this department, I desire to call attention to the advisability of having, if possible, a substantial portion of the loan for the making of highways applied to the improvements of the highways leading into Boston from the various suburban cities and towns. These streets, many of which are at present in their original condition as country roads, are being more heavily traveled each year, and the placing of street railway tracks in many of them has so reduced the area for teams as to render traffic difficult and keeping them in repair almost impossible, on account of the necessary concentration of traffic in narrow roadways. As these

thoroughfares are increasing in value the necessary widenings can be made more cheaply now than at any future time. I desire to call especial attention to the needs of Western avenue, North Beacon street, Faneuil street and Washington street in the Brighton district, Centre street and Washington street in the West Roxbury district, and Washington street, Adams street, Norfolk street, Neponset avenue and Dorchester avenue in the Dorchester district; also to the necessity of better facilities for communication through Charlestown with the cities of Chelsea and Somerville, the elevated railroad structure on Main street having very materially reduced the traffic capacity of that street. Consideration should also be given to the various crosstown streets, as exemplified by Morton street and other streets in Dorchester, Baker street and La Grange street in West Roxbury, and similar streets, that in the near future must become the main arteries of crosstown travel.

LAMP DIVISION.

Appropriation and revenue	\$800,000 00
Expenditures	719,574 91
Unexpended balance	\$80,425 09
Transferred to repairing ferryboat "General Sumner"	\$40,000 00
Transferred to Paving Division	17,503 06
Transferred to Washington street, West Roxbury	12,788 05
Transferred to City Council, in- cidental expenses	5,320 86
Transferred to Mayor's office	3,529 83
Transferred to city treasury	1,283 29
	<u>\$80,425 09</u>

A material saving has been made in this division, due to the provisions of the contract for electric lighting made May 5, 1909. The old form of electric light, which has been used in the city for over ten years, was replaced by the latest magnetite lamps and by flaming arc lamps. These lamps have several times the illuminating efficiency of the old lamps, and the price which was obtained has enabled the division to complete the year with a balance above its expenditures.

During the year the contract with the Rising Sun Street Lighting Company for lighting with gas and naphtha lamps expired, and the contract was again submitted to public competition. On account of the delay caused by an irrespon-

sible contractor being the lowest bidder the award of the contract was delayed until entirely prevented by the provisions of the new amendments to the city charter, which took effect July 11, 1909. In this contingency the contract was awarded for the balance of the year to the Rising Sun Street Lighting Company at the price of its bid, \$23.60 per lamp year. This contract, which expires January 31, 1910, contains a provision for the extension by the city for not more than six months during the installation of a new plant. It is therefore necessary that permission be obtained from the new City Council for making a contract for a term of years at as early a date as possible. In my opinion this term should not be less than five years and a ten-year term would be desirable, thereby giving contractors an opportunity to submit a lower price on account of the longer term over which they could divide the expenses of their plant.

In the consideration of this contract the two systems of gas and incandescent electric lighting are open.

The present price paid for gas lamps with single mantle burners is \$23.60 per lamp year.

Few radical improvements have been made in gas lighting since the adoption of the incandescent mantle in 1899 and an examination of available apparatus, both domestic and foreign, does not indicate any great increase in efficiency in the near future, except such as would require a cost out of proportion to the benefits to be derived.

For the 60 candle power electric lamps now in use the city pays \$22.31 per lamp year. The provisions of the contract are such that the city can require the extension of this service to cover the entire city at any time previous to one year before the termination of the contract.

It is probable that either system of lighting would be satisfactory to the community served. From a financial standpoint the electric 60 candle power tungsten lamp seems to offer a satisfactory light at a lower price than we have yet been able to obtain for gas lamps. During the recent negotiations two letters were received from the gas company, as follows:

BOSTON, MASS., July 23, 1909.

GUY C. EMERSON, ESQ.,

Superintendent of Streets, Boston, Mass.:

*DEAR SIR,—I desire to inform you that our company is willing to guarantee the city that the cost of street lighting with gas on a five-year contract, beginning February 1, 1910, shall not exceed \$20.51 per lamp, provided the city

furnish the lamps and equipment. If a contractor cannot be secured to execute the contract at this price, or less, we will undertake the work ourselves.

Yours very truly;

(Signed) E. N. WRIGHTINGTON,
Second Vice President,
Boston Consolidated Gas Company.

BOSTON, MASS., July 26, 1909.

MR. GUY C. EMERSON,

Superintendent of Streets, City Hall, Boston, Mass.:

DEAR SIR,—Replying to your favor of the 24th inst., it is understood, as stated by you, that the price quoted in our letter of July 23 of \$20.51 per lamp includes the maintenance of the lamps, including replacing of all broken glassware and other repair parts, and the furnishing of gas, the city's only duty being to furnish the lantern complete ready to operate.

Very truly yours,

(Signed) E. N. WRIGHTINGTON,
Second Vice President.

The estimated cost to the city of furnishing equipment similar to the equipment now in use, estimating that the equipment will be discarded in about fifteen years on account of wear or of necessity of improved apparatus, will be approximately \$114,000. If an equipment of inverted mantle lamps similar to those that have been tested during last summer were adopted, the cost would be approximately \$207,600. Assuming that the price by the gas company or a contractor was the maximum guaranteed by its letter (that is, \$20.51), the cost per lamp year, including interest on investment and sinking fund charges, would be in the first case \$21.33, and in the second case \$22.01. The first price would be \$2.27 less than the price at present paid, and with the inverted mantle lamp would be \$1.59 less. It is a matter of record that the gas company has made a contract with the city of Chelsea for a period of five years, furnishing all equipment, at a price of \$21.50; also, that the Watertown Gas Light Company, said to be a subsidiary corporation of the Consolidated Gas Company, has made an offer of \$18 for lighting the streets of Waltham under similar conditions. As it is therefore probable that a price less than the present price can be obtained, equipment to be furnished by the contractor, it seems a matter of doubt if the city would be justified in purchasing equipment.

With a view of determining the suitable form of lighting apparatus, the department has investigated extensively various forms of apparatus submitted to it. In general, it may be said of gas lamps that they have the advantage of reliability, and that in connection with electric lighting they furnish an additional independent system of lighting. Their disadvantages are the time consumed in lighting the lamps, although there is apparatus now on the market that would seem to obviate this objection.

Under the present system one hour is allowed to the lamp-lighter for lighting all lamps on his route and this time is often exceeded, especially in stormy weather when the service of the lamps is most urgently needed. The same time is allowed for extinguishing the lamps in the morning.

Gas lamps are affected more or less by temperature, and on account of collection of moisture in the service pipes are frequently put out of commission by freezing during very cold weather. Strong gusts of wind also reduce the volume of light for short intervals.

It has been found that gas lamps vary in candle power on account of the varying pressure in different portions of the city, and also on account of the difference in pressure at different hours in individual localities. In some localities it has been found that the gas pressure varies during the night between two and one-half and four and one-half inches of water pressure. Experiments seem to show that the variation in candle power of lamps without regulators is approximately in a direct ratio to the pressure. It is claimed by the lamp manufacturers, however, that automatic regulating apparatus will prevent such variations. Variations are also shown on account of depreciations in the mantles used, and this matter is a very hard one to regulate. It does not seem feasible to inaugurate a system of inspection that shall determine the weight, size and chemical contents of different mantles. The above conditions, which do not obtain in electric lighting, indicate the excess of supervision and inspection necessary to secure equivalent results in gas lighting. The electric lamps have the advantage of being lighted from the central station and of being subject to small depreciations in candle power. They have the disadvantage (especially in the suburban districts, where overhead wires are still used) of unreliability in times of storm and accident to their wires, by which entire districts are left in darkness.

The department has experimented with various gas lamps which it has been able to secure. In attempting to find suitable apparatus it has become clear that gas lighting

apparatus for streets in the United States is practically in the hands of a monopoly, and it is impossible to purchase in the open market an apparatus as satisfactory as the lamps furnished by the various street lighting corporations. Several foreign lamps have been secured of the inverted mantle type, that seems to represent the latest European practice, and they have been compared with the present Welsbach and electric lamps in use in the Boston streets, both as regards their structural defects and illuminating qualities.

In general, it may be said that gas lamps are more greatly affected by weather conditions than the electric lamps, and that inverted mantle lamps are not as reliable under weather conditions as the Welsbach lamps now installed. Tests of illuminating properties show a somewhat greater volume of light for the inverted mantle lamps, this light, however, being concentrated in a comparatively small area below the lamp; still, assuming that .02 foot candles represent the minimum satisfactory illumination for suburban districts, these lights give satisfactory illumination in a slightly greater area than the Welsbach lamps. The inverted mantle lamps, however, use considerably more gas than the Welsbach type. The distribution of the Welsbach, considering the total volume of light given, is, however, superior. The effective illumination of the best lamps tested, as shown by the diagrams hereto appended, does not indicate that the advantages of inverted mantle lamps are such as would justify any large increase of expense over the present equipment.

Results show that all of the lamps whose curves have been plotted, including the electric, are practically equal as regards minimum satisfactory illumination. Constant attention must, however, be given to gas lamps to maintain their efficiency, and the average of the city gas lamp at present is not more than 50 per cent of their guaranteed power under the contract. It would therefore seem that if gas lighting is to be continued a price, including equipment, should be secured equal to that of the tungsten lamp (that is, \$22.31), that a contract should be made for a sufficient term for the contractor to secure a return on his investment, and that stringent regulations should be made in the contract to keep the gas lamps, if adopted, to their guaranteed candle power.

The inspection system should be so reorganized as to include an official who is technically qualified as a street lighting expert, and he should be furnished with a laboratory and equipment sufficient for the experimental determination of the illuminating power of all city street lamps.

CITY OF BOSTON
STREET DEPARTMENT — LAMP DIVISION.

TESTS OF STREET LAMPS.

Illumination on a plane at right-angles to the light-ray, and 4-feet above the ground

SUMMARY of 735 Observations, Nov. 30, 1909, to Feb. 3, 1910

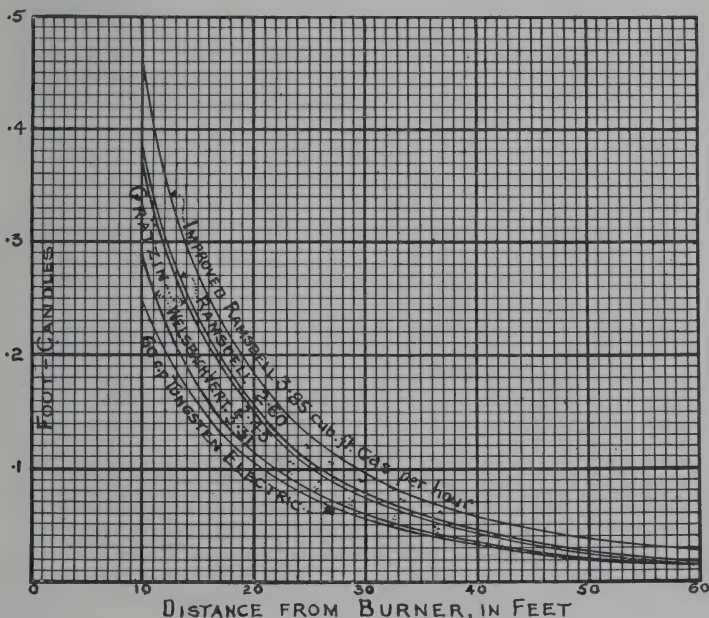
GRÄTZIN	} Inverted Mantles	3	"	19	"
RAMSDELL		3	"	2	"
IMPROVED RAMSDELL		3	"	15	"
WELSBACH VERTICAL		1	"	9	"
TUNGSTEN 60-c.p. ELECTRIC					

1 Foot-Candle = Illumination on a surface 1 foot distant from a light of 1 Candle-Power.

1 Candle-Power = Light produced by a Standard Spermaceti Candle, $\frac{7}{8}$ -inch diameter, weighing $\frac{1}{6}$ pound burning at the rate of 120 grains per hour

Gas-burners maintained in good condition — Gas consumption at normal pressure of 2.8 inches Water

Electric bulbs in continuous use since September 3 1909



Regarding the probable cost of various alternative schemes for lighting which may be presented for your consideration, on a basis of 12,000 lamps, I submit the following schedule. Wherever day labor methods are contemplated, wages of \$2.25 per day as paid in other departments of the city have been estimated. It is assumed that a satisfactory upright mantle lamp can be obtained either by purchase or lease.

Present rate by contract, per lamp year	\$23 00
Total cost per year	283,200 00
Consolidated Gas Company's proposal (upright mantle lamps), plus interest and sinking fund charges, per lamp year	21 33
Total cost per year	255,960 00
Immediate investment necessary	114,000 00
Consolidated Gas Company's proposal (inverted mantle lamps), plus interest and sinking fund charges, per lamp year	22 01
Total cost per year	264,120 00
Immediate investment necessary	207,600 00
Edison Company's tungsten lamps, per lamp year	22 31
Total cost per year	267,720 00
Immediate investment necessary	None
City plant, day labor methods (upright mantle lamps), plus interest, sinking fund and miscellaneous charges, per lamp year	23 61
Total cost per year	283,320 00
Immediate investment necessary	125,800 00
City plant, day labor methods (inverted mantle lamps), plus interest, sinking fund and miscellaneous charges, per lamp year	24 88
Total cost per year	298,560 00
Immediate investment necessary	219,400 00

In addition to the above there is still another alternative, the leasing of a plant by the city and doing the work by day labor methods. I have no available figures as to the probable cost except the figures between May, 1907, and September, 1908, when the city was following this method, which was at the rate of \$29 per lamp year, or at the rate of \$348,000 per year. It is probable, however, that previous figures can be greatly reduced.

In interpreting the diagram hereto appended, I desire to state that the Ramsdell and Graetzin lamps tested are a special installation and have been given special attention—in my opinion, better attention than it would be possible to give them under an installation in large numbers, either by the city or by the contractor. The tungsten electric lamps tested had been in continuous use for approximately five months and had no doubt deteriorated somewhat from their original illuminating power.

SANITARY DIVISION.

Appropriation and revenue, Sanitary Division .	\$663,000 00
Expenditures	637,255 93

Unexpended balance	\$25,744 07
Transferred to city treasury	<u>\$25,744 07</u>

Appropriation and revenue, Street Cleaning and Watering Division	\$605,000 00
Expenditures	572,226 16

Unexpended balance	\$32,773 84
Transferred to city treasury	<u>\$32,773 84</u>

The present Sanitary Division was formed by the consolidation of the former Sanitary Division and Street Cleaning and Watering Division, although the existence of separate appropriations caused the necessity of separate accounting, as in the case of the Highway Division. It has been conducted during the year under the charge of one deputy superintendent, and a very marked increase in efficiency in both services has been noted, also a great gain in economy.

One of the greatest advantages of the consolidation has been the fact that the large number of teams employed in both branches of the services were under one head, thereby obtaining flexibility in transfer from one service to the other whenever such transfer was needed for the quick removal of snow, ashes and garbage or for other purposes. The sanitary service has been conducted with the same proportion of day labor and contract work as for the past year. Considerable new equipment has been purchased, including eighty new horses.

The near expiration of the contract of the New England Sanitary Product Company and the rapid filling of dumping

places for refuse in the various suburban districts make imperative the adoption of new methods of refuse disposal. Commissions to consider the matter have been in session during the large portion of the year and the report of the second commission should be given immediate consideration and means adopted for the carrying out of the recommendations therein contained, or of other measures to accomplish the same object, otherwise the division will be seriously embarrassed in a short time.

A continued increase in efficiency has been shown by the decreased number of complaints received, although the expenses of the sanitary service have been less by \$107,944.97 than for the previous year.

The street cleaning and watering service has been conducted as in former years, and a greater amount of work has been done than for the preceding year, at practically the same expenditure. The street patrol system has been extended by ten men and five teams, and it is expected that some extensions will be made in this service during the present year.

Three additional street washing machines have been purchased during the present year, increasing the total number to four. The equipment is sufficient for the cleaning or washing of all asphalt and wood block pavement.

Catch-all boxes of new design are being installed at different points, and their use by the public shows that they are a much needed innovation.

One of the greatest embarrassments both to the sanitary service and the street cleaning service of the city has been the great lack of compliance by citizens with the various ordinances and regulations framed to increase the efficiency of the service. Particularly is this true regarding the various ordinances to prevent the littering of streets with rubbish, the rules and ordinances regarding the separation of refuse for collection and the ordinances regarding proper receptacles for such refuse. In the report of the special commission on refuse disposal an ordinance has been framed intended to obviate some of the difficulties now encountered by the sanitary service, and it is hoped that this ordinance or a similar one will receive early consideration and passage by the City Council. A bill has also been introduced into the General Court, at the instigation of civic bodies interested, to give the police more power in the enforcement of the ordinances against littering the streets.

The use of various dust-laying preparations other than water that were experimented with during the previous year

has been largely extended, so that practically the entire area of macadam pavements in the city has been treated with some preparation; among them, preparations of terracolio, heavy asphaltic oil and glutrin have been experimented with to a considerable extent, and calcium chloride has also been used to the extent of 408,511 square yards. The greater portion of the city, however, has been treated with an emulsion of petroleum containing an asphalt base to the extent of over 5,000,000 square yards, covering 312 miles of streets. This material has seemed to offer the best solution of the dust problem at the lowest price, and although there were some complaints during the early portion of the season regarding the disagreeable properties of the preparation, a canvass of the residents of the streets complained of invariably showed a majority in favor of the oil; and after the hot weather and during the latter part of the season few, if any, complaints were received. It seems reasonably certain that in addition to its dust-laying properties the use of oil on the streets materially reduced the number of mosquitoes and flies, and it is probable that the use of oil was a contributory factor to the low death rate of the city for the past year, the lowest in its history.

SEWER DIVISION.

Appropriation and revenue, Sewer Division	\$351,507 36
Expenditures	301,145 94
Unexpended balance	<u>\$50,361 42</u>
Transferred to Health Department,	\$15,326 39
Transferred to Neponset Bridge, rebuilding	13,000 00
Transferred to Park Department	10,237 69
Transferred to city treasury	11,797 34
	<u>\$50,361 42</u>
Loan, sewerage works	\$351,295 77
Expenditures	324,165 73
Unexpended balance	<u>\$27,130 04</u>
Loan, separate system of drainage	\$895,623 71
Expenditures	582,162 57
Unexpended balance	<u>\$313,461 14</u>

The work of the Sewer Division has been carried on as for several years previous, the expenditures being from three

funds, an appropriation for maintenance, a loan for sewerage works and a loan for separate system of drainage for work exclusively in the Charles River Basin drainage area.

The expenditures for maintenance for the year have been reduced \$103,122.22 from the expenditures of the preceding year, and so far as noticeable without any decrease in efficiency. Considerable work in the nature of repairs has been done, especially at the pumping station, and their effect has been particularly noticeable in the decreased amount of coal and oil used in proportion to the amount of sewage pumped. A force amounting on the average to 600 men has been employed during the year, but the larger amount of construction work has been done by contract, as usual. The policy of cleaning catch-basins and sewers by contract has been continued during the year, with marked increase in efficiency and decrease in expense.

The loan for sewerage works has been expended largely for the building of sewers on account of new streets and building construction in the East Boston, South Boston and Dorchester districts, and a beginning has been made in replacing the old wooden sewers in the North End district, city proper, with masonry structures. The expenditures for the next year will probably be along the same lines, and it is hoped to rebuild a much larger portion of old sewers in the city proper, and also to attempt the construction of at least one section of the Dorchester high level sewer, so called. The building of sewers for the relief of the South End district has been increasingly agitated during the past year, and measures should be taken as early as possible to provide for the relief of this district.

The loan for separate system of drainage, amounting to \$895,623.71, has been expended largely in the West Roxbury district, an amount approximating \$100,000 being devoted to the extension of Stony brook to Forest Hills square. It is anticipated that the brook will be extended beyond Forest Hills square during the coming season to a point where work can be suspended for a term of years, if thought desirable.

The separation of systems in the West Roxbury district is well advanced at the present time, and it seems advisable that a beginning at least should be made in the separation in the Back Bay district, city proper. Plans have been made for the relief of the district in the neighborhood of Dartmouth street, extending as far north as Church street and as far south as Exeter street, and it is intended to undertake this work during the coming year.

BOSTON AND CAMBRIDGE BRIDGES.

Appropriation	—
Expenditures	<u>\$18,464 72</u>

As previously stated, this city's share of the expenses of the Boston and Cambridge Bridge Commission has been borne by the general appropriation for the Bridge Division. Considerable repairs have been made on the bridges, notably the strengthening of the draw of the Harvard Bridge and extensive work on Western Avenue Bridge. Many of the bridges are in need of greater repairs, and some of them, notably the North Harvard Street Bridge, should be rebuilt as soon as possible.

The adoption of electric lights on the Cambridge Bridge has rendered it possible to place a light in each of the lanterns designed for the purpose without materially increasing the cost. The electric lights on the Harvard Bridge have been changed from carbon filament lamps to tungsten lamps, with a considerable increase of efficiency and at a lower price than formerly.

The work on these bridges during the early part of the year was under charge of Mr. William H. Joyce and during the latter part of the year of Mr. Francis J. Smith, they being for their terms of service the Cambridge members of the commission. To these gentlemen belong in a great measure the credit for the very excellent work accomplished.

The expenditures under the several appropriations for the year 1909 were as follows:

Maintenance	\$3,864,798 52
Street improvements	81,968 83
Highways, making of	123,673 91
Separate system of drainage	582,162 57
Sewerage works	324,165 73
Bridge specials	3,894 11
Paving specials	23,930 02
Total	<u>\$5,004,593 69</u>

**Recapitulation of Expenditures for the Twelve Months ending
January 31, 1910.**

OBJECT OF APPROPRIATION.	Current Expenses.	Special Appropriations.	Total.
Street Department:			
Central Office.....	\$22,518 63	.....	\$22,518 63
Bridge Division.....	217,317 43	\$3,894 11	221,211 54
Ferry Division.....	222,101 10	.....	222,101 10
Lamp Division.....	719,574 91	.....	719,574 91
Paving Division.....	1,172,658 42	23,930 02	1,196,588 44
Sanitary Division.....	637,255 93	.....	637,255 93
Sewer Division.....	301,145 94	906,328 30	1,207,474 24
Street Cleaning and Watering Division.....	572,226 16	.....	572,226 16
Street improvements.....	.....	81,968 83	81,968 83
Highways, making of.....	.....	123,673 91	123,673 91
Totals.....	\$3,864,798 52	\$1,139,795 17	\$5,004,593 69

Comparative Table Showing Cost of Maintenance of the Street Department since 1899.

DIVISION.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.	1909-10.
Central Office.....	\$18,799 41	\$19,994 66	\$24,999 83	\$20,386 04	\$21,092 06	\$20,853 21	\$21,902 91	.....	.....	.....	\$22,518 63
Bridge.....	120,408 72	138,580 56	170,806 18	164,082 13	171,789 52	185,269 84	184,564 54	\$188,235 55	\$199,342 12	\$180,273 01	198,852 71
Boston and Cambridge Bridges...	15,998 18	17,353 27	18,394 97	16,400 04	16,715 12	16,263 90	20,878 84	11,609 64	11,230 57	18,524 29	18,464 72
Ferry.....	211,822 87	236,999 91	248,754 06	227,688 29	254,535 23	258,126 20	273,995 90	265,463 83	294,357 82	249,068 39	222,101 10
Lamp.....	705,432 68	753,562 34	837,831 07	780,236 39	785,946 38	808,604 99	874,636 88	826,804 01	840,016 93	809,510 06	719,574 91
Paving.....	154,625 18	29,138 38	93,518 45	121,899 66	114,395 04	264,840 43	137,115 89	860,246 89	831,113 67	775,838 06	1,089,247 94
Removal of snow...	567,107 81	609,664 67	623,000 50	675,319 64	654,975 87	706,529 89	703,382 08	77,023 96	144,117 96	58,143 37	131,357 56
Sanitary.....	347,133 64	362,060 24	345,669 05	301,743 69	288,679 26	324,360 72	381,687 78	767,859 76	790,243 78	745,200 90	637,255 93
Sewer.....	322,951 15	339,747 23	356,145 72	392,802 09	403,626 11	434,172 62	448,837 79	374,075 92	402,389 90	351,162 41	301,145 94
Street Cleaning.....	174,625 97	174,742 45	164,259 36	160,147 25	164,104 74	165,071 08	189,347 50	465,005 94	501,688 67	419,275 91	353,550 33
Street Watering.....								153,423 07	152,235 45	154,679 90	170,728 75
Totals.....	\$2,638,905 61	\$2,681,843 71	\$2,883,739 19	\$2,860,705 22	\$2,875,850 23	\$3,184,092 88	\$3,236,350 11	\$3,989,748 57	\$4,166,736 87	\$3,761,676 30	\$3,864,798 52

Hired Team Contracts.

DISTRICT.	Awarded to	Dated	Single, per day.	Double, per day.	Extra Men, per day.	From	To	Paving Division.	Sanitary Division.	Sewer Division.	Street Cleaning Division.	Total.
No. 1. South Boston and Dorchester North ¹	Thomas F. Lynch.....	Feb. 19, 1909	\$2 80	\$5 00	\$2 00	Feb. 1, 1909	Jan. 31, 1910	\$3,145 00	\$1,418 80	\$352 50	\$1,151 00	\$6,067 30
No. 2. East Boston ²	Bernard E. Grant.....	Feb. 19, 1909	3 00	4 85	2 00	Feb. 1, 1909	Jan. 31, 1910	3,083 25	nothing	213 40	nothing	3,296 65
No. 3. Charlestown ²	Bernard E. Grant.....	Feb. 19, 1909	3 00	4 85	2 00	Feb. 1, 1909	Jan. 31, 1910	53 35	nothing	205 20	1,282 13	1,540 68
No. 4. Brighton ¹	Clark & Shea.....	Feb. 19, 1909	2 75	4 45	2 00	Feb. 1, 1909	Jan. 31, 1910	2,916 67	nothing	415 61	nothing	3,332 28
No. 5. West Roxbury ³	James E. Noble.....	Feb. 27, 1909	3 00	4 70	2 00	Feb. 1, 1909	Jan. 31, 1910	3,918 55	nothing	218 55	nothing	4,137 10
Nos. 6-9. Dorchester and Ashmont ⁴	John J. Loonie.....	Feb. 27, 1909	3 20	4 50	2 00	Feb. 1, 1909	Jan. 31, 1910	8,952 55	2,461 75	2,852 45	nothing	14,266 75
No. 7. Roxbury South and Jamaica Plain ¹	Joseph Sprissler.....	Feb. 19, 1909	2 90	4 45	2 00	Feb. 1, 1909	Jan. 31, 1910	8,374 33	1,163 75	nothing	1,809 98	11,348 06
No. 8. South End and Roxbury North ³	William T. McNally Company.	Feb. 27, 1909	3 15	4 50	2 00	Feb. 1, 1909	Jan. 31, 1910	6,111 68	1,852 04	873 36	2,133 50	10,470 58
No. 10. North and West Ends and Back Bay ⁵ ...	Bernard E. Grant.....	Feb. 19, 1909	3 05	4 50	1 85	Feb. 1, 1909	Jan. 31, 1910	4,111 97	217 13	2,488 97	6,947 47	13,765 54

¹ Advertised and awarded to lowest bidder.

² Advertised and awarded to lowest bidder on doubles and second lowest bidder on singles.

³ Advertised and awarded to lowest bidder on singles and second lowest bidder on doubles.

⁴ Advertised and awarded to lowest bidder on doubles and tenth lowest bidder on singles.

⁵ Advertised and awarded to lowest bidder on doubles and sixth lowest bidder on singles.

STREET DEPARTMENT.

21

Financial Statement of the Street Department Appropriation.

February 1, 1909, to January 31, 1910.

Maintenance.

APPROPRIATION.	Appropriations and Transfers during 1909-10.	Revenue.	Total Credits.	Expenditures for the twelve months ending January 31, 1910.	Balances of Divisions, January 31, 1910.*
Street Department:					
Central Office	¹ \$22,782 00		\$22,782 00	\$22,518 63	\$263 37
Bridge Division	² 223,786 00	\$995 97	224,781 97	217,317 43	7,464 54
Ferry Division	³ 230,000 00		230,000 00	222,101 10	7,898 90
Lamp Division	⁴ 720,858 20		720,858 20	719,574 91	1,283 29
Paving Division	⁵ 1,167,503 06	5,155 36	1,172,658 42	1,172,658 42	
Sanitary Division	⁶ 663,000 00		663,000 00	637,255 93	25,744 07
Sewer Division	⁷ 311,435 92	1,507 36	312,943 28	301,145 94	11,797 34
Street Cleaning and Watering Division.	⁸ 605,000 00		605,000 00	572,226 16	32,773 84
Totals	\$3,944,365 18	\$7,658 69	\$3,952,023 87	\$3,864,798 52	\$87,225 35
Appropriation				\$22,782 00	
Transferred to city treasury				263 37	\$22,518 63
Appropriation				\$223,786 00	
Revenue				995 97	
Transferred to city treasury				7,464 54	\$217,317 43
Appropriation				\$230,000 00	
Transferred to city treasury				7,898 90	\$222,101 10
Appropriation				\$800,000 00	
Transferred to repair ferryboat "General Sumner"				40,000 00	
Transferred to Paving Division				17,503 06	
Transferred to Washington street, West Roxbury				12,788 05	
Transferred to City Council, incidental expenses				5,320 86	
Transferred to Mayor's office				3,529 83	
Transferred to city treasury				1,283 29	\$719,574 91
Appropriation				\$1,150,000 00	
Revenue				5,155 36	
Transferred from Lamp Division				17,503 06	\$1,172,658 42
Appropriation				\$663,000 00	
Transferred to city treasury				25,744 07	\$637,255 93
Appropriation				\$350,000 00	
Revenue				1,507 36	
Transferred to Health Department				15,326 39	
Transferred to Neponset Avenue Bridge, rebuilding				13,000 00	
Transferred to Park Department				10,237 69	
Transferred to city treasury				11,797 34	\$301,145 94
Appropriation				\$605,000 00	
Transferred to city treasury				32,773 84	\$572,226 16

* For detail of distribution see foot of table.

The following tables show the snowfall and rainfall since 1903:

Snowfall (inches).

MONTH.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.	1909-10.
November.....	2.2	.....	.....	1.1	.....	.....	.....
December.....	10.6	12.0	3.5	15.5	7.0	3.5	12.3
January.....	35.7	21.3	6.1	16.1	4.3	11.2	11.9
February.....	16.5	8.0	6.1	25.5	9.3	2.3	12.6
March.....	8.9	3.6	21.9	6.6	4.8	3.1	00.2
April.....	1.4	.....	.....	.....	0.8	.....	.....
Totals.....	75.3	44.9	37.6	64.8	26.2	20.1	37.0

Rainfall (inches).

MONTH.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
January.....	3.43	4.80	4.09	2.96	2.54	2.47	3.94
February.....	3.00	2.49	1.59	2.66	1.88	2.96	4.71
March.....	5.95	2.43	2.25	5.45	1.66	2.97	3.28
April.....	4.43	9.14	2.14	2.15	3.31	1.70	3.92
May.....	0.32	3.38	1.47	4.91	3.12	3.78	2.33
June.....	7.19	2.06	5.23	2.57	2.56	1.08	4.45
July.....	2.99	1.23	1.00	5.38	1.09	3.17	0.97
August.....	3.33	2.19	3.39	1.58	1.10	4.35	3.55
September.....	2.43	5.57	5.10	2.64	7.43	0.68	5.15
October.....	3.95	2.13	0.82	3.88	2.54	3.70	1.07
November.....	1.48	1.70	1.77	2.55	6.02	0.74	4.11
December.....	2.57	2.52	3.23	3.96	4.31	2.47	3.19
Totals.....	41.97	39.64	32.08	40.60	37.56	30.07	40.67

In this rainfall is included the precipitation during the winter months, which equals one-tenth of an inch to one inch of snowfall.

Summary of Volume and Cost of Snow Removed, Year ending January 31, 1910.

STREET DEPARTMENT.

23

WORK DONE BY	Districts.	TEAMS.		TOTAL TEAMS.		Cubic Yards.	Total Cubic Yards.	Cost.	Total Cost.	COST PER CUBIC YARD.	TOTAL COST PER CUBIC YARD.
		Single.	Double.	Single.	Double.						
Paving Division, day work...	South Boston.....	1,254	2,952			7,158		\$6,791 10			
	East Boston.....	387	29			4,445		4,387 04			
	Charlestown.....	922	1,057			3,036		4,895 38			
	Brighton.....	551	472			1,495		5,014 73			
	West Roxbury.....	2,109	1,035			4,179		8,527 62			
	Dorchester.....	200	481			1,162		3,771 92			
	Roxbury.....	414	76			566		11,197 63			
	South End.....	3,811	5,102			14,015		13,285 98			
	Ashmont.....	401	372			1,145		3,197 28			
	North End.....	2,886	1,138			5,162		12,658 89	\$73,727 57		
				12,935	12,714		38,363				
Paving Division, contracts...	Snow District No. 1.		2,291			6,983		\$2,097 34		\$0 29	
	Snow District No. 2.		2,444			7,554		2,643 90		35	
	Snow District No. 3.		1,545			4,782		1,769 34		37	
	Snow District No. 4.		3,334			11,770		4,961 64		42	
	Snow District No. 5.		189			682		306 90		45	
					9,803		31,771		11,779 12		\$0 371
Sanitary Division, Street Cleaning Section, day work....	No. 1.....	984				2,184		\$1,241 61		\$0 57	
	No. 2.....	783				1,738		168 50		10	
	No. 3.....	1,374	132			3,392		1,199 24		35	
	No. 6.....	131				291		74 50		26	
	No. 7.....	616				1,368		1,367 45		1 00	
								9,374 41		36	
								1,457 64		35	
								10,880 01		44	
								5,477 26		30	
				30,117	75,999		82,397		\$31,240 62		379
Totals (Exclusive of Paving Division day work. Inclusive of Paving Division day work.....)				36,116	9,803		114,168		\$43,019 74		\$0 377
				49,051	22,517		152,531		116,747 31		

¹ Single load, one cubic yard.
² Double load, two cubic yards.
³ Includes cost of ploughing gutters, cleaning sidewalks and picking ice not carted away.
⁴ Includes 803 cubic yards at \$0.38 (\$305.14), removed under 1908 contract.
⁵ Includes 228 cubic yards at \$0.50 (\$114), removed under 1908 contract.
⁶ Street Cleaning section, single loads, 2.22 cubic yards.
⁷ Sanitary section, single loads, 2.59 cubic yards.
⁸ Includes Sunday and other work paid for at time and a half.

The following Table Shows the Area of Pavement in Square Yards by Districts.

DISTRICT.	Asphalt.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Cobble.	Bitulthie.	Macadam.	Gravel.	Not Graded.	Total.
Year 1908 report.....	331,782	2,167,943	49,795	44,989	4,607	2,212	115,114	6,406,246	480,169	172,204	9,775,061
<i>February 1, 1910.</i>											
City proper.....	248,913	953,669	44,805	11,645	5,210	1,342	71,360	608,094	1,449	233	1,946,720
Charlestown.....	5,284	260,573	.....	5,473	.....	.....	.....	171,212	275	.....	442,817
East Boston.....	1,925	135,517	.....	2,685	251	897	620	451,225	17,402	503	611,025
South Boston.....	24,595	413,238	.....	8,666	.....	.....	17,784	382,813	19,216	76,332	942,644
Roxbury.....	53,107	297,326	8,267	1,417	16,465	.....	25,374	1,107,458	47,071	13,890	1,570,375
West Roxbury.....	.....	15,216	.....	2,031	.....	.....	.....	1,304,874	90,545	23,420	1,436,086
Dorchester.....	.....	140,614	2,735	4,989	493	.....	.....	1,657,688	178,273	25,924	2,010,716
Brighton.....	130	2,158	.....	4,094	.....	.....	.....	753,459	125,234	5,321	890,396
Totals.....	1,333,954	2,218,311	55,807	41,000	22,419	2,239	115,138	8,643,823	479,465	145,623	9,850,779

Total area of pavements on public streets, 9,850,779 square yards.

NOTE.— In the above table the city is subdivided substantially on the boundary lines between the districts as they existed when annexed to Boston.

Territory annexed from Brookline is included in city proper.

¹ Of this amount 95 square yards equal asphalt blocks.² Of this amount 506,538 square yards equal granite block paving on concrete base.³ Of this amount 1,801 square yards equal Hassam pavement, and 946 square yards equal Blome granite concrete blocked pavement, and 143,188 square yards equal bituminous macadam.

28,834 square yards public alleys laid out under chapter 298 of the Acts of 1898 included in this table.

286,743 square yards public streets in charge of Park Department included in this table.

In addition to this table there are 4,811 square yards accepted foot passageways.

The following changes in pavements were made during the year:

0.00 mile or 468 square yards asphalt changed to granite block.
0.04 mile or 610 square yards asphalt blocks changed to brick.
0.11 mile or 1,598 square yards granite block changed to asphalt.
0.03 mile or 560 square yards granite block changed to bituminous macadam.
0.14 mile or 3,678 square yards plank on bridges changed to granite block.
0.02 mile or 750 square yards plank on bridges changed to brick.
0.14 mile or 1,211 square yards macadam changed to asphalt.
1.40 miles or 29,516 square yards macadam changed to granite block.
0.31 mile or 6,012 square yards macadam changed to wood block.
1.03 miles or 16,465 square yards macadam changed to brick.
0.08 mile or 1,125 square yards macadam changed to gravel.
3.90 miles or 62,546 square yards gravel changed to macadam.
0.30 mile or 16,333 square yards not graded changed to granite block.
1.07 miles or 24,743 square yards not graded changed to macadam.

Streets laid out or discontinued by the Street Commissioners during the year show:

Asphalt increased 0.11 mile or 493 square yards.
Macadam increased 0.36 mile or 5,681 square yards.
Gravel increased 3.83 miles or 57,163 square yards.
Not graded increased 0.15 mile or 9,468 square yards.

The building of Charles River Dam shows:

Granite block increased 0.00 mile or 2,062 square yards.

The removal of Mt. Washington Avenue Bridge shows:

Granite block decreased 0.05 mile or 1,244 square yards.
Plank on bridges decreased 0.01 mile or 201 square yards.

Corrections on account of revision and other causes show:

Asphalt decreased 0.03 mile or 52 square yards.
Granite block decreased 0.07 mile and increased 1,713 square yards.
Plank on bridges increased 0.02 mile or 640 square yards.
Brick decreased 0.00 mile or 13 square yards.
Cobble increased 0.00 mile or 27 square yards.
Bitulithic increased 0.00 mile or 24 square yards.
Macadam decreased 0.17 mile or 8,624 square yards.
Gravel increased 0.22 mile or 3,554 square yards.
Not graded decreased 0.01 mile and increased 5,027 square yards.

Length of Pavements.

The following Table Shows Length in Miles and Character of Pavement on Accepted Streets February 1, 1910.

District.	Asphalt.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Cobble.	Bitulithic.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1908 report.....	21.68	96.63	2.10	2.10	0.39	0.29	6.18	348.62	31.00	5.29	514.28
February 1, 1910.											
City proper.....	16.76	42.38	1.88	0.52	0.41	0.15	3.59	28.03	0.11	0.02	93.85
Charlestown.....	0.33	11.34	.....	0.23	.....	.....	.....	11.59	0.02	.....	23.51
East Boston.....	0.11	6.28	.....	0.19	.....	0.14	0.03	21.24	0.86	0.03	28.88
South Boston.....	1.99	17.98	.....	0.38	.....	.....	1.04	20.44	0.95	2.44	45.22
Roxbury.....	2.78	12.75	0.42	0.05	1.03	.....	1.52	63.95	3.34	0.43	86.27
West Roxbury.....	.....	0.70	.....	0.10	.....	.....	.....	77.64	6.02	0.33	84.79
Dorchester.....	.....	6.70	0.11	0.22	0.04	.....	.....	94.75	11.39	0.64	113.85
Brighton.....	.....	0.08	.....	0.26	.....	.....	.....	33.21	8.54	0.17	42.26
Totals.....	121.97	298.21	2.41	1.95	1.48	0.29	6.18	3350.85	31.23	4.06	518.63

Total length of pavement on public streets, 518.63 miles.

NOTE.—In the above table the city is subdivided substantially on the boundary lines between the districts as they existed when annexed to Boston. Territory annexed from Brookline is included in city proper.

1 Of this amount 0.02 mile equals asphalt blocks.

2 Of this amount 18.17 miles equals granite block paving on concrete base.

3 Of this amount 0.12 mile equals Hassam pavement, and 0.06 mile equals Blome granitoid concrete blocked pavement, and 3.28 miles equals bituminous macadam.

4.82 miles public alleys laid out under charter 298 of the Acts of 1898 included in this table.

6.80 miles public streets in charge of Park Department included in this table.

In addition to this table there are 0.92 mile accepted foot passageways.

Public streets laid out by the Street Commissioners during the year show pavements increased 4.45 miles or 72,905 square yards; public streets discontinued show pavements decreased 0.00 mile or 100 square yards.

Public footways laid out by the Street Commissioners during the year show accepted foot passageways increased 0.06 mile or 417 square yards.

The building of Charles River Dam shows pavements increased 0.00 mile or 2,062 square yards.

The removal of Mt. Washington Avenue Bridge shows pavements decreased 0.06 mile or 1,445 square yards.

Corrections to previous measurements on account of revision and other causes show pavements decreased 0.04 mile and increased 2,296 square yards.

Total net increase 4.35 miles or 75,718 square yards pavements on public streets.

The rate of increase from year to year is shown in the following table:

	Miles.		Miles.		Miles.
1859.....	111.50	1884.....	374.10	1898.....	471.19
1871.....	201.32	1885.....	379.60	1899.....	479.47
1872.....	207.40	1886.....	383.55	1900.....	489.55
1873.....	209.24	1887.....	390.30	1901.....	491.85
1874.....	313.90	1888.....	392.72	1902.....	496.90
1875.....	318.58	1889.....	397.84	1903.....	499.85
1876.....	327.50	1890.....	404.60	1904.....	500.39
1877.....	333.20	1891.....	409.60	1905.....	502.20
1878.....	340.39	1892.....	434.59	1906.....	502.80
1879.....	345.19	1893.....	443.34	1907.....	510.04
1880.....	350.54	1894.....	447.65	1908.....	511.60
1881.....	355.50	1895.....	452.12	1909.....	514.28
1882.....	359.85	1896.....	456.11	1910.....	518.63
1883.....	367.99	1897.....	459.12		

DESCRIPTION OF DISTRICTS, 1909.

The City of Boston is hereby divided into Street Department districts, ten in number, described and bounded as follows:

District 1.—South Boston and Dorchester North. Bounded northerly by the Harbor Commissioners' line to Congress street, thence by and including Congress street to Atlantic avenue, thence westerly by and not including Atlantic avenue and Atlantic avenue extension to the South bay and Fort Point channel, thence by Fort Point channel and Midland Division of the N. Y., N. H. & H. R. R. to Dudley street, thence southerly by and not including Dudley street, Stoughton street, Pleasant street and Savin Hill avenue to Old Colony Division of the N. Y., N. H. & H. R. R., by and not including Savin Hill avenue, northerly side, to the Harbor Commissioners' line, thence easterly by the Harbor Commissioners' line.

District 2.—East Boston and Breed's Island.

District 3.—Charlestown.

District 4.—Brighton. Bounded easterly by District 8, namely, from the Charles river by and not including Essex street to the Brookline line.

District 5.—West Roxbury. Bounded northerly by District 7, namely, from the Brookline line by and including Prince street to the Arborway, Arborway to Pond street, by and including Pond street, Centre street, Green street and Glen road to Franklin Park, by and not including Sigourney street to Walnut avenue, Seaver street, Blue Hill avenue and Canterbury street to Morton street, by and including Canterbury street and Ashland street to Harvard street, by and not including Harvard street to the Hyde Park line, to the Dedham, Newton and Brookline lines to the point of beginning.

District 6.—Dorchester. Beginning at the Harbor Commissioners' line, by and including Savin Hill avenue, Pleasant street, Stoughton street and Dudley street to Midland Division of the N. Y., N. H. & H. R. R. to Columbia road, by and not including Columbia road to Blue Hill avenue, by and including Blue Hill avenue, Canterbury street and Angell street to Blue Hill avenue and Talbot avenue, by and not including Talbot avenue, Ashmont street and Freeport street to Commercial Point Bridge, to Harbor Commissioners' line to point of beginning.

District 7.—Roxbury South and Jamaica Plain. Bounded northerly by District 8, namely, beginning at Longwood avenue and Brookline line, by and including Longwood avenue, Prentiss street, Linden Park street, Roxbury street, Guild row, Dudley street and Magazine street to Norfolk avenue, by and not including Norfolk avenue to the Midland Division of the N. Y., N. H. & H. R. R. to Columbia road, by and including Columbia road, Blue Hill avenue, Seaver street, Walnut avenue and Sigourney street to Glen road, by and not including Glen road, Green street, Centre street and Pond street to Arborway, by and not including Prince street to Brookline line, to Muddy river, to Longwood avenue.

District 8.—South End and Roxbury North. Bounded northerly by District 10, namely, beginning at Fort Point channel and Atlantic avenue extension, by and including Atlantic avenue extension, Kneeland street, Eliot street, Park square, Boylston street and Massachusetts avenue to Charles river, by the west bank, to and including Essex street to the Brookline line, to Longwood avenue, by and not including Longwood avenue, Prentiss street, Linden Park street, Roxbury street, Guild row, Dudley street and Magazine street to Norfolk avenue, by and including Norfolk avenue to the Midland Division of the N. Y., N. H. & H. R. R. to Fort Point channel, to point of beginning.

District 9.—Ashmont. Bounded northerly by District 6, namely, beginning at the Harbor Commissioners' line to Commercial Point Bridge, by and including Freeport street, Ashmont street and Talbot avenue to Blue Hill avenue, by and not including Angell street, by and including Canterbury street to Morton street, by and not including Canterbury street and Ashland street to Harvard street, by and including Harvard street to Hyde Park line, by the Hyde Park line and the Milton line to Neponset river, to Harbor Commissioners' line.

District 10.—North and West Ends and Back Bay. Beginning at Atlantic avenue and Kneeland street, by and not including Kneeland street, Eliot street, Park square, Boylston street and Massachusetts avenue to Charles river, by the west bank, Charles river to the Harbor Commissioners' line to Congress street, by and not including Congress street to Atlantic avenue, by and including Atlantic avenue to Kneeland street.

Respectfully submitted,

GUY C. EMERSON,
Superintendent of Streets.

PART II.

APPENDICES.

APPENDIX A.

REPORT OF THE DEPUTY SUPERINTENDENT OF FERRY DIVISION.

BOSTON, February 1, 1910.

MR. GUY C. EMERSON,
Superintendent of Streets:

DEAR SIR,—I respectfully submit herewith the annual report of the Ferry Division for the year ending January 31, 1910.

The property in charge of this division is as follows:

South Ferry, East Boston side.—Located at the termination of Lewis street, and covers an area of 58,725 square feet of land and water. On these premises are one head-house with canopies, one workshop for carpenters and machinists, one storehouse, one modern coal pocket, three piers which form the two slips, two drops and tanks, one wharf and dock where boats are laid when not in use or while undergoing repairs.

South Ferry, Boston side.—Located at the termination of Eastern avenue, and covers an area of 38,135 square feet of land and water, on which are one head-house with canopies, one gate room, three piers which form the two slips, and two drops and tanks.

North Ferry, Boston side.—Located at the termination of Battery street, and covers an area of 45,000 square feet of land and water, on which are one head-house with canopies, one gate room, three piers which form the two slips, and two drops and tanks.

North Ferry, East Boston side.—Located at the termination of Border street, and covers an area of 62,138 square feet of land and water, on which are one head-house with canopies, one boiler and oil room, one modern coal pocket, three piers which form the two slips, and two drops and tanks.

The following steam ferryboats are in commission:

Name.	When Built.	Kind.	Length.
Revere.....	1875	Side-wheel.	148 ft.
D. D. Kelly.....	1879	"	148 "
Hugh O'Brien.....	1883	"	163 "
General Hancock.....	1887	"	148 "
Noddle Island.....	1899	Propeller.	164 " 3 in.
Governor Russell.....	1900	"	164 " 3 "
General Sumner.....	1900	"	164 " 3 "

Respectfully submitted,

H. P. CHRISTIERNIN,
Deputy Superintendent.

STREET DEPARTMENT.—FERRY DIVISION.

CONSOLIDATED FINANCIAL STATEMENT FOR THE YEAR ENDING
JANUARY 31, 1910.**1. Receipts.**

Total cash receipts during the year	\$107,332 30
Cash in hands of toll men at beginning of year	200 00
	\$107,532 30
Cash paid over to City Collector	107,332 30
Balance of cash on hand at end of year	<u>\$200 00</u>

2. Appropriations and Expenditures.

Balance unexpended from previous years (loans)	\$40,015 60
Received from City Treasurer, annual appropriation for this division for 1909-10	\$230,000 00
Less amount unexpended at close of year	7,898 90
	222,101 10
Total appropriations	\$262,116 70
Total expenditures	222,101 10
Balance unexpended (loans)	<u>\$40,015 60</u>

3. Result of Operations for the Year.

Receipts for the year (net income)	\$107,332 30
Ordinary expenses	\$222,101 10
Interest on ferry debt	17,935 00
	\$240,036 10
Depreciation of boats, \$11,098 73	
Depreciation of machinery and tools	514 95
Decrease in stock of supplies	8,577 21
	20,190 89
Net outgo for the year	260,226 99
Net loss for the year	<u>\$152,894 69</u>

4. Balance Sheet.

End of Fiscal Year, January 31, 1910.

ASSETS.		LIABILITIES.	
AVAILABLE ASSETS:		CURRENT LIABILITIES:	
Cash on hand	\$200 00	None.	
Inventory of supplies, etc., on hand	4,730 56		
Total available assets:	\$4,930 56	CONTINGENT LIABILITIES:	\$40,015 60
CONTINGENT ASSETS:		Appropriations account	
City treasury, balance of appropriations	40,015 60	FIXED LIABILITIES:	
FIXED ASSETS:		Capital of the city invested in the ferries, viz.:	
Real estate and buildings ¹	2 606,400 00	Total expenditures of all	
Ferryboats ²	173,880 05	kinds for fifty-two years,	
Machinery, tools, etc.	4,634 50	including interest on	
Total tangible assets	\$829,860 71	debts	\$11,016,789 57
Avenues, etc., East Boston ⁴	315,815 68	Less total receipts	6,567,280 13
Deficiency or loss by operation and maintenance			
of the ferries for fifty-two years to date	3,343,848 65		4,449,509 44
	\$4,489,525 04		\$4,489,525 04

⁴ Cost (net) previous to 1870, per ferry books, viz.:
 "Expenditures for avenues" \$250,000 00
 "Expenditures" for improvements 65,815 68
\$315,815 68

These expenditures were practically subsidies to the East Boston Ferry Company by the city before the ferries were purchased by the latter and should properly be added to the deficiency or loss.

¹ Original purchase of ferries \$276,375 00
 New buildings, drops, slips, etc., cost to date, 555,523 64
 Land, Lincoln's Wharf, cost, 1887 5,562 52
 Land, Battery Wharf, cost, 1893 10,000 00
\$847,461 16

² Assessors' figures.

³ Total cost to date, per ferry books, \$618,070 58
 Less boats sold, depreciated or destroyed 444,190 53
\$173,880 05

5. Comparison of Receipts, Appropriations and Expenditures for Five Years.

	1905-06.	1906-07.	1907-08.	1908-09.	1909-10.
RECEIPTS.					
From foot passengers (tollmen).....	\$64,622 37	\$60,347 28	\$61,211 43	\$61,681 72	\$61,419 42
“ “ passes (office sales).....	606 10	668 70	578 70	440 30	634 30
“ extra passengers on teams (gatemen).....	1,566 30	1,518 46	1,454 72	1,488 24	1,443 54
“ team tickets (office sales).....	218 50	463 00	365 00	386 50	547 00
“ strip team tickets (tollmen).....	26,091 50	25,813 00	26,492 50	24,088 00	26,233 00
“ teams (gatemen).....	13,514 68	13,910 98	13,836 34	14,730 19	15,325 74
“ City Collector for tickets.....	453 50	688 00	487 50	370 00	100 00
“ free ferries, July 4.....	1 00	1 00	1 00	1 00	1 00
Total from rates.....	\$107,073 95	\$103,410 42	\$104,427 19	\$103,185 95	\$105,704 00
From rents.....	1,217 67	930 66	1,009 00	414 00	405 66
“ old material sold.....	111 47	74 90	114 00	3 25	193 59
“ other sources.....	75 00	36 96	114 36	641 26	1,029 05
Total ordinary receipts.....	\$108,478 09	\$104,452 94	\$105,664 55	\$104,244 46	\$107,332 30
From cash in hands of tollmen.....	.....	350 00	.....	.....	.....
Total receipts turned over to city.....	\$108,478 09	\$104,802 94	\$105,664 55	\$104,244 46	\$107,332 30
APPROPRIATIONS.					
Regular appropriations.....	\$243,000 00	\$243,000 00	\$250,000 00	\$225,000 00	\$230,000 00
Special appropriations:					
New coal pocket, North Ferry, East Boston.....	25,000 00	.....	.....	.....	.....
Equipment of ferryboats with life apparatus.....	12,000 00	.....	.....	.....	.....
Repairing ferryboat “General Sumner”.....	.....	.....	.....	.....	40,000 00
Total appropriations.....	\$280,000 00	\$243,000 00	\$250,000 00	\$225,000 00	\$270,000 00

5. Comparison of Receipts, etc.—*Concluded.*

	1905-06.	1906-07.	1907-08.	1908-09.	1909-10.
EXPENDITURES (ORDINARY).					
Office:					
Superintendent's salary.....	\$3,000 00	\$3,000 00	\$566 67	\$2,808 79	\$3,000 00
Clerks and cashier.....	4,000 00	3,778 33	4,400 00	4,199 97	4,533 33
Stationery.....	256 45	394 79	256 18	307 09	184 76
Printing.....	734 42	1,116 86	1,273 53	1,250 05	988 02
Telephones.....	274 26	93 90	236 62	253 90	213 20
Keeping horse and repairing vehicles.....	620 60	1,379 34	394 82	220 78	129 54
Advertising, etc.....	22 75	.....	18 15	40 31	72 21
Traveling expenses.....	.....	.....	60 00	258 00	53 00
Postage.....	107 50	100 00	188, 00	.....	11 58
Premiums, surety companies.....	.....	200 00	.....	170 90	180 00
Examination of accounts.....	.....	.....	.....	.....	.....
Total office expenditures.....	\$9,015 98	\$10,063 22	\$7,393 97	\$9,509 79	\$9,365 64
Ferryboats and landings:					
Employees.....	161,965 81	158,244 23	169,097 23	166,105 60	150,600 12
Fuel.....	47,788 67	36,669 13	45,181 13	35,042 86	30,629 72
Teaming, wheeling coal, etc.....	5,572 80	4,963 80	4,295 80	4,969 73	2,795 07
Oil, waste and supplies.....	6,972 27	9,433 26	8,329 97	7,329 56	7,061 92
Gas.....	867 96	455 32	392 44	654 06	660 56
Electric light.....	5,593 10	5,326 60	4,426 24	4,255 00	3,412 57
Towing by electric power.....	207 40	243 40	193 34	133 66	117 00
Repairs of boats.....	11,022 02	21,145 72	22,231 94	13,199 81	10,959 95
" buildings and drops.....	11,576 12	13,274 19	30,756 60	6,742 86	5,798 89
Furnishings, electric, etc.....	579 97	618 98	437 96	316 21	227 51
Damages.....	.....	5 00	.....	809 25	472 15
Other expenditures.....	833 80	2,502 98	1,621 20	.....	.....
Total from regular appropriations.....	\$261,995 90	\$265,463 83	\$294,357 82	\$249,068 39	\$222,101 10

EXPENDITURES FROM SPECIAL APPROPRIATIONS.							
New coal pocket, North Ferry.....	.....	25,000 00					
Equipment of ferryboats.....	11,719 37						
Total expenditures, regular and special.....	\$273,715 27	\$290,463 83	\$294,357 82	\$249,068 39	\$222,101 10		
Transfers to treasury.....	280 63				7,898 90		
Total expenditures, including transfers.....	\$273,995 90	\$290,463 83	\$294,357 82	\$249,068 39	\$230,000 00		
Balances in treasury unexpended:							
From special appropriations.....	\$25,015 60	\$15 60	\$15 60	\$15 60	\$40,015 60		

¹ Includes repair of coal carts.² Includes execution of court, \$4,290.73.

6. Comparative Balance Sheets at the close of each Year for Five Years.

	January 31, 1906.	January 31, 1907.	January 31, 1908.	January 31, 1909.	January 31, 1910.
<i>Assets.</i>					
Cash in hands of tollmen	\$550 00	\$200 00	\$200 00	\$200 00	\$200 00
Fuel and supplies on hand	10,236 93	4,295 14	18,970 60	13,307 77	4,730 56
City Treasurer (balance of appropriations)	25,015 60	15 60	15 60	15 60	40,015 60
Real estate and buildings (assessors' valuations)	577,400 00	573,400 00	578,400 00	606,400 00	606,400 00
New buildings ¹		25,000 00			
Ferryboats (less depreciation) ..	222,709 30	209,346 74	196,785 94	184,978 78	173,880 05
Machinery and tools	6,835 50	6,151 95	5,536 76	5,149 45	4,634 50
Total tangible assets	\$842,747 33	\$818,409 43	\$799,908 90	\$810,051 60	\$829,860 71
Cost of avenues, etc., East Boston (previous to 1870) ²	315,815 68	315,815 68	315,815 68	315,815 68	315,815 68
Deficiency of assets (loss)	2,620,543 31	2,823,306 28	3,038,382 58	3,190,953 96	3,343,848 65
Totals	\$3,779,106 32	\$3,957,531 39	\$4,154,107 16	\$4,316,821 24	\$4,489,525 04
<i>Liabilities.</i>					
Capital invested by City of Boston to date	\$3,754,090 72	\$3,957,515 79	\$4,154,091 56	\$4,316,805 64	\$4,449,509 44
Appropriations account (credit balances)	25,015 60	15 60	15 60	15 60	40,015 60
Total liabilities	\$3,779,106 32	\$3,957,531 39	\$4,154,107 16	\$4,316,821 24	\$4,489,525 04

Detail of Capital Invested by the City of Boston.

Total expenditures to date, per ferry books	\$9,542,934 34	\$9,849,968 17	\$10,152,247 67	\$10,419,391 06	\$10,659,427 16
Interest on debt for the year (per City Auditor)	16,920 00	18,114 18	18,075 00	17,935 00	17,935 00
Interest previous years, etc., (net debits per auditor)	279,148 85	279,148 85	279,148 85	279,148 85	279,148 85
Total expenditures	³ \$9,839,003 19	³ \$10,147,231 20	³ \$10,449,471 52	³ \$10,716,474 91	³ \$10,956,511 01
Deduct total receipts paid to collector	³ 6,084,912 47	³ 6,189,715 41	³ 6,295,379 96	³ 6,399,669 27	³ 6,507,001 75
Excess of expenditures, viz., capital invested by city	\$3,754,090 72	\$3,957,515 79	\$4,154,091 56	\$4,316,805 64	\$4,449,509 44

¹ Included in real estate and buildings by assessors.² See footnote 4 under Table 4.³ Auditor's figures for total expenditures and receipts are \$60,278.56 more than above, the difference (capital invested) being the same; \$3,542.50 for additional interest and \$33 counted twice on total of ferry books have also been included in these figures.

Total Expenditures upon Ferries since 1858-59.

Expenditures for avenues, paving, interest, etc., previous to purchase of the ferries by the city ¹	\$444,101 30
Purchase of ferries, April, 1870	276,375 00
Expenditures for ferryboats since April, 1870, ²	618,070 58
Expenditures for new buildings, piers, drops, etc. ²	555,523 64
Expenditures for tools and fixtures ²	14,752 46
Expenditures for land from Lincoln's Wharf in 1887	5,562 52
Expenditures for land from Battery Wharf in 1893	10,000 00
Total expenditures on capital account	\$1,924,385 50
Expenditures for repairs of all kinds ²	935,167 75
Expenditures for fuel ²	1,430,197 46
Expenditures for salaries and wages ²	5,038,329 14
Expenditures for all other purposes	1,688,709 72
	\$11,016,789 57

Total Receipts from Ferries since 1858-59.

Receipts from rents, etc., previous to purchase of ferries	\$29,588 56
Receipts from ferry tolls since purchase of ferries ²	6,279,874 87
Receipts from rents since purchase of ferries, ²	62,653 45
Receipts from sales of ferryboats ²	147,331 21
Receipts from all other sources, per ferry books, ^{2,3}	17,297 19
Receipts from all other sources, additional, per auditor	30,734 85
	\$6,567,480 13
Less amount in hands of tollmen	200 00
Total, per auditor's figures	\$6,567,280 13

¹ See footnote 4 under Table 4.² According to books of the Ferry Division.³ \$104.18 rejected money and \$33 counted twice have been deducted from this item. See previous reports.

REGULAR ANNUAL (ORDINARY) AND SPECIAL APPROPRIATIONS (EXTRAORDINARY) OF THE FERRY DIVISION OF THE STREET DEPARTMENT FOR THE YEAR ENDING JANUARY 31, 1910.

Appropriation for the year ending January 31, 1910	\$230,000 00
Balance unexpended at close of year and turned over to city treasury	7,898 90
Amount of expenditures	<u>\$222,101 10</u>

SPECIAL APPROPRIATIONS.

Appropriation authorized and issued May 27, 1902, for ferry improvements	\$100,000 00
Amount expended from May 27, 1902, to February 1, 1910	99,984 40
Unexpended balance of appropriation January 31, 1910	<u>\$15 60</u>
Appropriation authorized January 19, 1910, for transfer from Lamp Division for repairing ferryboat "General Sumner"	<u>\$40,000 00</u>
Unexpended balance of this appropriation January 31, 1910	<u>\$40,000 00</u>

STATEMENT SHOWING RECEIPTS AT EACH FERRY.

North Ferry.

FROM TOLLMEN.	Foot Passengers.	Team Tickets.	Total.
East Boston side.....	\$17,138 50	\$10,391 50	\$27,530 00
Boston side.....	17,852 79	6,057 00	23,909 79
	\$34,991 29	\$16,448 50	\$51,439 79

From tollmen	\$51,439 79
From gatemen:	
For 81,119 foot passengers at 1 cent,	\$811 19
For cash fares for teams	7,852 78
	<u>8,663 97</u>
Total at North Ferry	<u>\$60,103 76</u>

South Ferry.

FROM TOLLMEN.	Foot Passengers.	Team Tickets	Total.
East Boston side.....	\$12,809 67	\$3,321 50	\$16,131 17
Boston side.....	13,618 46	6,463 00	20,081 46
	\$26,428 13	\$9,784 50	\$36,212 63

From tollmen \$36,212 63

From gatemen:

For 63,235 foot passengers at 1 cent, \$632 35

For cash fares for teams . . . 7,472 96

8,105 31

Total at South Ferry \$44,317 94

North and South Ferries as above . . . \$104,421 70

Tickets paid for at office of City Collector . . 100 00

Tickets paid for at office of Ferry Division . . 1,181 30

Received in lieu of free ferries, July 4, 1909 . . 1 00

Total ferriage receipts \$105,704 00

Rents for the year 405 66

Sales of old material 193 59

Commissions on public telephone 27 05

Reimbursed damages 2 00

Head-house privileges 1,000 00

Total cash receipts as above \$107,332 30

STATEMENT SHOWING THE DIFFERENCE OF TRAVEL ON THE
FERRIES FROM FEBRUARY 1, 1909, TO FEBRUARY 1, 1910.

	North Ferry.	South Ferry.
Foot passengers at 1 cent each . . .	3,580,248	2,706,048
Foot passengers by ticket . . .	45,033	21,132
Foot passengers free	300	660

Total foot passengers 3,625,581 2,727,840

One-horse teams and pleasure car-
riages 366,261 259,462

Two-horse teams 146,936 98,195

Three-horse teams 8,867 3,062

Four-horse teams 4,679 4,578

Carried forward 526,743 365,297

	North Ferry.	South Ferry.
<i>Brought forward</i>	526,743	365,297
Two-horse pleasure carriages and hacks	24,681	11,986
Hand carts, etc.	4,508	1,426
Dragwheels	9	3
Free teams	4,422	300
Total teams	<u>560,363</u>	<u>379,012</u>

TOTAL TRAVEL ON BOTH FERRIES FROM FEBRUARY 1, 1905,
TO FEBRUARY 1, 1910.

	From Feb. 1, 1905, to Feb. 1, 1906.	From Feb. 1, 1906, to Feb. 1, 1907.	From Feb. 1, 1907, to Feb. 1, 1908.	From Feb. 1, 1908, to Feb. 1, 1909.	From Feb. 1, 1909, to Feb. 1, 1910.
One-horse teams.....	626,518	634,839	608,744	612,167	625,723
Two-horse teams.....	225,361	225,024	238,911	214,572	245,131
Three-horse teams.....	9,169	10,409	8,091	8,262	11,929
Four-horse teams.....	11,678	11,547	16,897	11,488	9,257
Two-horse carriages and hacks..	21,728	18,571	26,381	30,720	36,667
Two-cent tolls for hand carts, etc.....	4,518	4,936	5,251	5,058	5,934
Dragwheels, etc.....	88	41	23	29	12
Total teams at both ferries..	899,060	905,367	904,298	882,296	934,653
Total foot passengers.....	6,708,152	6,292,393	6,353,101	6,385,697	6,352,461

TICKET STATEMENT FOR THE YEAR ENDING JANUARY 31, 1910.

	Balance Outstanding Jan. 31, 1909.	Sold during the Year.	Delivered on Requisition.	Total.	Received and Destroyed.	Balance Outstanding Jan. 31, 1910.
Foot passes.....	221,736	63,430	2,250	287,416	66,165	221,251
One-horse team tickets.....	94,020	334,120	3,408	431,548	331,742	99,806
Two-horse team tickets.....	59,099	221,252	672	281,023	219,813	61,210
Three-horse team tickets....	5,799	10,926	.....	16,725	10,400	6,325
Four-horse team tickets.....	7,898	8,480	.....	16,378	8,362	8,016
One-horse carriage tickets...	22,659	12,380	.....	35,039	12,156	22,883
Two-horse carriage tickets...	2,646	9,480	.....	12,126	9,375	2,751

LIST OF CONTRACTS FROM FEBRUARY 1, 1909, TO FEBRUARY 1, 1910.

DATE.	Awarded to	Contract.	Amount Paid.
1909.			
Feb. 1..	Simon Collins.....	Teaming coal from sheds to boats at 23 cents per ton.....	\$2,751 76
Feb. 11..	Margaret Sullivan.....	News stand privilege, South Ferry Head-house, East Boston side.....	4 50 per month.
Feb. 16..	National Automatic Machine Company.....	Installing eight weighing and ten vending machines in head-houses.....	1,000 00
Feb. 24..	Frank Ridlon Company...	New controller on motor at South Ferry, Boston side.....	195 00
April 1..	Bader Coal Company ¹	For 5,670 tons coal.....	17,981 01
June 7..	Frank Ridlon Company...	New controller on motor at North Ferry, Boston side.....	186 00
July 16..	The Atlantic Works.....	Removing old smokestack and erecting a new one on ferryboat "General Hancock".....	179 00
Oct. 9..	The Atlantic Works.....	Hauling ferryboat "Governor Russell" out on railway, repairing rudder and propeller, and also machinery.....	1,328 00
Oct. 20..	The Lockwood Manufacturing Company.....	Removing old and installing new heating coils in two cabins of ferryboat "Governor Russell".....	117 00
Nov. 11..	Lawler Brothers.....	Repairing middle pier, North Ferry, East Boston side.....	275 00
Dec. 29..	Betts Brothers & Co.....	Raising and floating ferryboat "General Sumner".....	500 00
1910.			
Jan. 15..	Richard T. Green Company,	Repairing ferryboat "General Sumner," damaged by fire.....	32,980 00

¹ Contract made by Supply Department.

APPENDIX B.

REPORT OF THE DEPUTY SUPERINTENDENT OF HIGHWAY DIVISION.

BOSTON, MASS., February 23, 1910.

MR. GUY C. EMERSON,

Superintendent of Streets:

DEAR SIR,— I submit herewith a report of the income, expenditures and operations of the Paving Division for the year 1909, together with that of the Bridge Division, both divisions having been merged into the Highway Division. The appropriations were provided this year out of the general tax levy, the same as last year. In addition to the general maintenance work performed by the division forces, a considerable amount of permanent pavement was laid by contract in several sections of the city.

Several departures have been made in the character of the pavement laid and in the treatment of macadam streets, which are described in another part of the report.

Streets paved with Standard No. 1 blocks are North street, between Blackstone and Richmond streets; South Market street, between Commercial street and Atlantic avenue, and Albany street, between Broadway extension and Dover street. Streets paved with the smaller special cut blocks are Massachusetts avenue, from Southampton street to the New England Railroad Bridge, and part of Washington street, West Roxbury, between Green and Morton streets.

A further departure has been made in the use of brick blocks for street surface. This form of pavement is suitable for residential districts where the teaming traffic is heavy, and also for streets with track locations. The brick blocks laid this year were confined to several streets in Roxbury, a residential and manufacturing section, 17,188 square yards having been laid. This pavement is durable, easy to clean, gives a smooth, even surface, and is less expensive than granite blocks. Streets paved with brick blocks on concrete base were Ruggles street, between Tremont and Cabot streets; Whittier street, between Columbus avenue and Cabot street;

Vernon street, between Tremont and Cabot streets; Linden Park street, between Tremont and Cabot streets; Hampshire street, between Cabot and Linden Park streets; Simmons street, between Vernon and Linden Park streets, and Derne street, between Hancock and Temple streets.

In the care and maintenance of macadam surfaces, of which there is a large amount, the following streets were treated with a coal tar product by the penetration method: Rose street, Wilkes street, Providence street, part of Huntington avenue in the city proper and South End, Washington street, Brighton, and a part of Bennington street, East Boston. By the penetration method, using asphalt oil, part of Bennington street, between Wordsworth and Saratoga streets, and Huntington avenue, between Gainsborough and Bryant streets, were surfaced. By the mixing method, that is, mixing stone and hot asphalt oil in a mixing machine and placing on the street, Morton street, between Forest Hills square and Blue Hill avenue, was surfaced. Of the ordinary water-bound macadam, a very extensive area was resurfaced, each district force being very busily employed while the weather permitted. A total area of 582,267 square yards were resurfaced.

At this time it might not be amiss to make a few recommendations in regard to a number of important streets that are at the present time partly macadam and partly granite blocks. These are car track streets; the center for a width of seventeen feet is paved with granite blocks, which leaves a narrow strip of macadam on each side which, on account of its narrow limits, is constantly in need of repairs. These streets should be constructed with a uniform pavement for the entire width, so that the traffic would not necessarily be confined to one beaten path, but could roll over any part of it. A pavement of the special cut granite block or the brick block on concrete base would be suitable and would eliminate the maintenance charges in these streets, which are considerable.

SIDEWALKS.

The construction of sidewalks has not been pursued with the view of bettering conditions, neither has a systematized scheme been adopted toward accomplishing anything in this direction. Whatever has been done was spasmodic, emanating in most instances with the abutter. Constructing sidewalks in this manner has resulted in a variegated assortment of artificial stone, brick and gravel on about every street in the city. A systematic plan should be adopted whereby a

definite area could be constructed each year until the principal streets have been provided with a uniform sidewalk. All assessment streets under construction or proposed for construction are provided for in this respect, in that artificial stone sidewalks are part of the contract for the street construction.*

STREET OPENINGS.

The total number of permits issued this year for street openings was 13,597, about 1,500 more than last year. This increase is distributed all over the city, and permanent pavements are disturbed as freely as macadam streets. From experience in past years it is evident that street openings will increase in the future with the changes in the older sections and the developments in the outlying sections of the city, resulting in a deterioration of street surface. To offset consequent expense, which must ultimately devolve upon the city for repairs caused by these openings, deposits should be made by parties opening the street covering the cost of the opening, or a fee paid for each permit issued, which could be applied towards the cost of the necessary repairs.

ASPHALT AND WOOD BLOCK PAVEMENT.

The asphalt paving, with the exception of a few small areas where a new pavement was laid, consisted of resurfacing of old asphalt streets, such as Beacon street, between Dartmouth and Hereford streets; Charles street, between Fruit and Allen streets, and Devonshire street, between Milk and Water streets. On Batterymarch street, from Milk street towards Broad street, a 2-inch asphalt surface was laid on the old paving blocks for the purpose of overcoming the noise in that section.

The wood block pavement laid was confined to three streets bounding the Christian Science Temple and one street in Dorchester, amounting in all to 5,686 square yards.

CRUSHER PLANTS.

The stone crushing plants owned by the city are located at Codman street, Dorchester; Dimock street, Roxbury, and Chestnut Hill avenue, Brighton. The two former have not been operated for several years; the Chestnut Hill plant is operating under lease, the contractor paying the city a royalty for each ton of stone quarried. The crushed stone required by the division for the resurfacing of streets has been furnished on the street under contract in the different districts.

STEAM ROLLERS.

At the beginning of the year the division owned eleven 15-ton and one 3-ton road rollers, all being of the Buffalo Pitts make, except the oldest in the service which is an Aveling and Porter roller made in England. During the summer, while at work on Washington street, Brighton, an electric car collided with this English roller and damaged it beyond repair. The rest of the machines have had extensive repairs, two requiring a set of large rolls and about all being refitted with new speed pinions and shafts and new picks.

PERSONAL PROPERTY.

The personal property of the division, consisting of tools, hardware, horses, carts, harnesses, rollers, etc., has been kept up and is in very good condition, having a value of \$60,000.

YARD AND WHARF ROOM.

The yards and wharves in the several districts are the same as last year, except in District 10, the department having terminated the lease of the Revere Street Yard in that district in June of this year.

Respectfully submitted,

JAMES H. SULLIVAN,
Deputy Superintendent.

HIGHWAY DIVISION (BRIDGE SERVICE).

There are in the City of Boston 161 bridges, not including culverts. Seven of these, namely, Brookline Street, Cambridge, Cambridge Street, Harvard, North Harvard Street, Prison Point, and Western Avenue to Cambridge, all connecting Boston and Cambridge, are in charge of two commissioners, one of whom is appointed by the Mayor of the City of Boston and the other by the Mayor of the city of Cambridge. The Charles River dam, on the site of the old Craigie Bridge, is in charge of the Charles River Basin Commission. One hundred twenty-one bridges are supported wholly or in part by the City of Boston; twenty-five of these being tide-water bridges provided with a draw. Forty bridges are supported wholly by railroad corporations.

There are fifteen important drawbridges maintained by the City of Boston, namely, Broadway, Chelsea (south), Congress Street, L Street and Warren, operated by steam; Atlantic Avenue, Charlestown, Chelsea (north), Chelsea Street, Dorchester Avenue, Dover Street, Malden, Meridian Street and Summer Street, operated by electricity; and Northern Avenue, operated by compressed air, the compressors run by electricity.

During the past year the following bridges have been rebuilt:

Huntington Avenue.— This bridge has been entirely rebuilt.

Chelsea Street.— Burned at the time of the Chelsea fire, in April, 1908; has been entirely rebuilt, except a short length on the Chelsea end, and was opened to foot travel November 22, 1909, and to all traffic January 3, 1910.

Granite Avenue.— Boston's portion of this bridge has been entirely rebuilt with the exception of the draw and draw landing.

Neponset.— The draw has been entirely rebuilt, and new machinery is now being installed.

Chelsea North.— On April 30, 1909, a heavy truck went through the draw, necessitating the closing of one-half of the draw. This part was then stripped, the cross floor beams strengthened by the addition of steel plates to the top flanges, and stiffeners placed under the stringers supporting the cars, and the deck, sheathing and some of the floor beams renewed. The other half of the draw was afterwards repaired in the

same manner, and the draw was entirely painted. The facings of the pier have been entirely replaced, and the fenders rebuilt where broken. The operating machinery of this bridge is constantly causing a great deal of trouble, as the draw is too heavy to be operated by the present gearing. Some other system of operation should be installed, possibly a system of cables, as on Summer Street.

Albany Street.—On recommendation of the City Engineer an "island" has been constructed in the center of this bridge to divert the traffic to the sides of the roadway, to relieve the center from the heavy loads. A special appropriation has been provided to strengthen this bridge.

Mt. Washington Avenue.—This bridge has been removed, except a short section of the Boston approach, which is used as a dumping place for snow, by the Street Department.

Extensive painting work has been done on the following bridges:

Dorchester Avenue.—Ironwork of both draws.

Summer Street.—Both draws and draw landings.

Congress Street.—Ironwork of draw and drawtenders' house.

Warren.—Ironwork of both draws.

L Street.—Ironwork of draw.

Chelsea North.—Ironwork of draw.

Meridian Street.—Drawtenders' house.

Dover Street.—Drawtenders' house.

Charlestown.—Drawtenders' house.

Attention is called to the very bad condition of the ironwork on the Charlestown Bridge, which is rapidly deteriorating for the want of a thorough cleaning and painting. The pressing need of painting this bridge has been mentioned in previous reports, but we have not been able to have the work done as yet, owing to lack of funds. The estimated cost is about \$9,000, and the work should be done without fail during the coming summer.

Winthrop Bridge.—This bridge is in very bad shape. The amount paid for repairs annually would more than pay the interest on a loan sufficient to build a suitable bridge. Something should be done to replace this bridge at once.

Southampton Street Sluiceway.—The wooden bulkheads are in very bad shape, and the general condition very dangerous. It should be rebuilt this year.

Western Avenue and North Beacon Street bridges to Watertown are both in very bad shape. North Beacon Street, especially, must have immediate attention on the Boston portion if it is to be kept open for travel.

Meridian Street.—This is the most active drawbridge in Boston. It is in a deplorable condition, and must either receive extensive repairs, amounting practically to a rebuilding, or be replaced by a new bridge in the very near future. The draw pier is in bad shape, as is also the operating machin-

ery. If the bridge is to be kept open a great deal of money will have to be spent on it to keep it passable. A new bridge should be built at once.

The draw foundations of L Street, Dorchester Avenue and Warren Bridge will need considerable attention during the coming year. The track timbers supporting the draw on each of these bridges are very weak, and must be renewed.

Chelsea South.— This bridge is in very bad shape. The draw is much too light to carry the traffic which is put upon it, and the conditions there are a source of great inconvenience to the traveling public. The bridge is operated by steam, and there is but one boiler. It is almost impossible to operate it by hand, and in case of any accident to the boiler the bridge would have to be closed as there is no reserve boiler as on the other bridges operated by steam. Another boiler should be installed, or some other auxiliary power provided.

Cottage Street.— The entire length of this footbridge needs repairing and the fences, about 3,000 feet long, should be painted. About 350 feet of the southerly end has been removed during the past year, owing to the progress of the filling in of the flats.

Some repairs and resurfacing are needed on the asphalt sidewalks on the following bridges: Malden, Warren, Charlestown, L Street, Dorchester Avenue, over channel; Summer Street, over freight tracks; Broadway, over Fort Point channel; Dover Street.

Besides the force of drawtenders who are permanently assigned to the various drawbridges for the efficient operation of the same, there is a force of mechanics, whose time is given entirely to the repairing of the different bridge surfaces, fences, etc., and also, in the case of the drawbridges, to the draw houses and other buildings. The major portion of this work is renewing the sheathing and decking. Many of the bridges require frequent renewal of sheathing and oftentimes the deck. There are about thirty-five bridges which require the frequent attention of this mechanical force. Approximately \$20,000 was expended during the past year for lumber used by this force in renewing the surface of these bridges.

The following is a summary of work done in this line:

DRAWBRIDGES.

Atlantic Avenue.— Sheathed; new oak headers; built gear house; built sand box; repaired boat.

Broadway Draw.— Sheathed draw; oak headers; patched deck and sheathing seven times; painted boat.

Charlestown.— Patched sheathing four times; oak headers three times; sheathed complete once; repaired sidewalk twice; painted house inside and out.

Chelsea North.— Sheathed complete once; patched deck and sheathing four times; new headers twice; repaired headers twice; repaired gears; repaired latch; repaired wheel guard; new stringers; new iron beams; painted all ironwork; put in new latch; repaired sidewalk three times; repaired house.

Chelsea South.— Sheathed complete twice; patched sheathing twice; repaired straps; painted boat; repaired stairs to pier; repaired the latch; new oak headers.

Chelsea Street.— New sidewalks; repaired and painted fence.

Commercial Point.— Patched sheathing.

Congress Street.— New oak headers; patched headers once; repaired sidewalk; sheathed complete three times; patched sheathing once; painted boat; repaired and painted house.

Dorchester Avenue.— Patched sheathing three times; new oak headers twice; repaired fence; repaired sidewalk; sheathed three times; painted ironwork; repaired and painted motor house; repaired pier.

Dover Street.— Sheathed draw three times; new oak headers twice; repaired sidewalk twice; patched deck and sheathing three times; put in new beams and new wheel guards; built new sidewalk; repaired steps to pier; repaired house; painted fence on pier.

Granite Avenue.— Patched sheathing three times; new flaps.

L Street.— Sheathed complete once; new deck; repaired tracks; new oak headers; repaired sidewalks twice; repaired gate; repaired float; patched deck and sheathing; painted beams and all ironwork; repaired waterway; repaired house.

Malden.— Repaired latch block; patched deck and sheathing four times; painted boat; repaired wheel guard; built sand box; storm door on house; built truck house.

Meridian Street.— New gate; repaired fence three times; new headers; repaired pier and float; sheathed complete twice; repaired latch; built new sidewalk.

Mt. Washington Avenue.— Stripped draw; removed pier.

Neponset Bridge.— Patched deck and sheathing five times; built fence; patched sidewalk; repaired flap hinge.

North Beacon Street.— New deck and sheathing; patched deck and sheathing once.

Northern Avenue.— Patched sheathing four times; sheathed complete once; new headers.

Summer Street.— Sheathed twice; patched deck and sheathing three times; repaired sidewalk; new headers twice; painted draw; repaired pier.

Warren.— Planked pier; sheathed four times; new sleepers under tracks; patched sheathing three times; new headers three times; new stringers; repaired sidewalk; painted draw-beams; repaired track; repaired tool house.

Western Avenue.— Patched deck and sheathing four times; repaired tool house.

INLAND BRIDGES.

Albany Street (B. & A.).— Cleaned iron; repaired guard box; sheathed complete; built “island” to separate roadways; rebuilt easterly sidewalk.

Allston (B. & A.).— Rebuilt sidewalk; boxed guards; repaired sheathing twice; repaired fence.

Ashmont.— Patched deck and sheathing twice; repaired sidewalk.

Athens Street.— Rebuilt bridge.

Beacon Street (B. & A.).— Rebuilt; painted iron beams; painted fence; painted chords; sheathed once.

Beacon Street (Waterway).— New sidewalk; painted iron.

Bennington Street.— Cleaned and re-leaded iron beams; new deck and sheathing; patched deck and sheathing once.

Berwick Park (Footbridge).— New steps.

Blakemore Street.— Sheathed entire; painted iron fence and girders.

Blue Hill Avenue.— Patched sheathing.

Boston Street.— Sheathed both sides.

Broadway (B. & A.).— Sheathed complete once; patched sheathing six times.

Brookline Avenue.— Sheathed complete.

Byron Street.— Built sidewalk and sheathed.

Cambridge Street (B. & M.).— Repaired sidewalk twice.

Central Avenue.— Patched deck and sheathing; repaired sidewalk.

Columbus Avenue (B. & A.).— Sheathed both sides.

Cottage Street (Footbridge).— Removed 200 feet of bridge; moved watchman's house.

Dartmouth Street (B. & A.).— Patched sheathing twice.

Dorchester Avenue (Plymouth Division).— Sheathed both sides; patched deck and sheathing; patched sidewalk.

Gainsborough Street (Footbridge).— Repaired steps once; put in new steps.

Gold Street.— Sheathed bridge; repaired sidewalks; repaired fence.

Harvard Street (Midland Division).— Sheathed complete.

Huntington Avenue.— Patched sheathing three times.

Hyde Park Avenue.— Patched sheathing.

Massachusetts Avenue (Providence Division).— Patched sheathing twice; new sidewalks; sheathed three roadways; painted iron sidewalk beams.

Milton.— Rebuilt sidewalks; painted iron beams.

Oakland Street (Mattapan).— Repaired sidewalks.

Perkins Street (Footbridge).— Repaired walk; repaired stairs twice; painted fence and railing.

Southampton Street (over railroad).— Patched deck and sheathing twice; new deck and sheathing; boxed guards; rebuilt.
West Fourth Street.— Sheathed complete; patched sheathing twice; repaired sidewalk; boxed chords.
West Newton Street.— Patched deck and sheathing; rebuilt roadway; painted ironwork; built and painted new fence.
West Rutland Square (Footbridge).— Built new steps.
Winthrop.— Patched deck and sheathing ten times.

BRIDGE SERVICE.—FINANCIAL STATEMENT.

Appropriation, 1909-10	\$223,786 00
Revenue: From Boston & Northern Street Railway (portion of expense of repairing Chelsea North draw)	\$833 80
From Boston & Albany Railroad (one-half of ex- pense of repairs Albany Street Bridge)	162 17
	995 97
Total, appropriation and revenue	\$224,781 97

Expended, February 1, 1909, to January 31, 1910:	
Account Boston bridges	\$198,852 71
Account Boston and Cambridge bridges	18,464 72
	\$217,317 43
Balance unexpended	7,464 54
	\$224,781 97

Amount expended and charged to appropriation for Bridge Division	\$217,317 43
Amount expended and charged to special appro- priations	3,894 11
Total amount expended February 1, 1909, to January 31, 1910	<u>\$221,211 54</u>

STATEMENT OF EXPENDITURES ON BOSTON BRIDGES.

(1.) Office Expenses:	
Salaries: Engineer, clerk and stenographer, messenger and supervisor	\$5,938 72
Carried forward	\$5,938 72

<i>Brought forward</i>	\$5,938 72	
Printing, postage and station- ery	711 89	
Advertising	71 70	
Telephones	173 12	
Traveling expenses	10 20	
Sundry expenses	83 50	
		\$6,989 13

(2.) Bridges:

Salaries of drawtenders . . .	\$116,621 13	
Lighting	906 50	
Heating	640 04	
Water	205 40	
Tools, hardware and supplies, .	1,819 41	
Sweeping and removing snow, .	1,078 20	
Repairing buildings, plumb- ing, etc.	442 72	
Repairing piers	6,863 72	

General repairs, roadways, etc.:

Lumber	\$20,099 93	
Nails	317 20	

Ironwork, ma- chine and mis- cellaneous re- pairs	4,687 65	
--	----------	--

Paint and paint stock	643 75	
------------------------------------	--------	--

Labor	16,131 61	
-----------------	-----------	--

Inspection	120 00	
----------------------	--------	--

42,000 14

Power:

Electric	\$3,779 25	
--------------------	------------	--

Steam (fuel)	2,340 38	
------------------------	----------	--

6,119 63

Sundry expenses on bridges . .	440 00	
--------------------------------	--------	--

177,136 89

(3.) Yard and Stable:

Yard: Employees:

Clerk, janitor, teamster and watchmen	\$3,954 00	
---	------------	--

Machinist and electrician	2,260 80	
--	----------	--

\$6,214 80

Heating	160 58	
-------------------	--------	--

Lighting	83 73	
--------------------	-------	--

Carried forward \$6,459 11 \$184,126 02

<i>Brought forward</i>	\$6,459 11	\$184,126 02
Furnishings	51 96	
Tools, hardware and supplies,	237 23	
Building repairs:		
Plumbing and general repairs	\$146 51	
Labor	50 74	
		197 25
		\$6,945 55

Stable: Wages of stablemen and hostlers	\$4,181 02
Hay, grain and straw	1,280 69
New horses	600 00
Horse hire	101 00
Veterinary	86 69
Shoeing and clipping	384 75
Harness and wagons, and repairs to same	864 47
Stable supplies	55 02
Miscellaneous stable expenses,	35 00

	7,588 64	
		14,534 19

(4.) Public Landings:

Rent	\$187 50	
Towing	5 00	
		192 50

Total expenditures		<u><u>\$198,852 71</u></u>
------------------------------	--	----------------------------

Summary of Expenditures:

(1.) Office expenses	\$6,989 13
(2.) On bridges	177,136 89
(3.) Yard and stable	14,534 19
(4.) Public landings	192 50
Total	<u><u>\$198,852 71</u></u>

**Special Appropriations in Charge of the Highway Division.
(Bridge Service.)**

APPROPRIATION.	Balance and Approp- riation.	Expended.	Balance Unexpended.
Albany Street Bridge.....	\$10,000 00	.....	\$10,000 00
Ashmont Bridge Extension.....	5,000 00	\$35 10	4,964 90
Berkeley Street Bridge.....	5,500 00	51 94	5,448 06
Chelsea Bridge, North.....	5,000 00	.....	5,000 00
Footbridge, Dalton street to Boylston street.....	10,000 00	555 00	9,445 00
Footbridge, Washington street to Hyde Park avenue.....	10,000 00	.....	10,000 00
Granite Avenue Bridge.....	3,000 00	2,791 00	209 00
Neponset Bridge, rebuilding.....	15,000 00	461 07	14,538 93
Total expended and charged to special appropri- ations		\$3,894 11	

INCOME.

The total amount received by the City Collector on account of the Bridge Division appropriation during the fiscal year was \$1,057.62, which included an item of \$25 on account of the Boston and Cambridge bridges. The items are as follows:

Boston & Albany Railroad (for one-half of expense of repairs on Albany Street Bridge during year 1908)		\$162 17
Boston & Northern Street Railway Company (for portion of expense of strengthening Chelsea Bridge, North).		833 80
Cummings Brothers, Charlestown (for expense of repairs on Charlestown Bridge gate broken by taxicab)		31 09
Rents: Thomas M. O'Connor	\$25 00	
Boston Athletic Association	25 00*	
		50 00
Sale of old material		11 65
Total		\$1,078 71

* Account Boston and Cambridge bridges.

LIST OF BOSTON BRIDGES.

I.—BRIDGES WHOLLY MAINTAINED BY BOSTON.

[In the list those marked with an asterisk (*) are over navigable waters, and are each provided with a draw.]

In Charge of Highway Division, Bridge Service.

- Allston, over Boston & Albany Railroad at Cambridge street, Brighton.
- Ashland street, over N. Y., N. H. & H. Railroad, Providence Division, West Roxbury.
- Athens street, over N. Y., N. H. & H. Railroad, Midland Division.
- * Atlantic avenue, over Fort Point channel.
- Baker street, at Brook Farm, West Roxbury.
- Beacon street, over outlet to Back Bay Fens.
- Beacon street, over Boston & Albany Railroad.
- Bennington street, over Boston, Revere Beach & Lynn Railroad.
- Berkeley street, over Boston & Albany Railroad.
- Berwick park (footbridge), over N. Y., N. H. & H. Railroad, Providence Division.
- Blakemore street, over N. Y., N. H. & H. Railroad, Providence Division.
- Bolton street, over N. Y., N. H. & H. Railroad, Midland Division.
- Boylston street, over Boston & Albany Railroad.
- Broadway, over Boston & Albany Railroad.
- * Broadway, over Fort Point channel.
- Brookline avenue, over Boston & Albany Railroad.
- Brooks street, Brighton.
- Byron street, over Boston, Revere Beach & Lynn Railroad.
- Charlesgate, over Ipswich street.
- * Charlestown, from Boston to Charlestown.
- * Chelsea South, over south channel, Mystic river.
- * Chelsea street, from East Boston to Chelsea.
- Columbus avenue, over Boston & Albany Railroad.
- * Commercial Point, or Tenean, Dorchester.
- * Congress street, over Fort Point channel.
- Cottage Farm, over Boston & Albany Railroad, at Commonwealth avenue.
- Cottage street (footbridge), over flats, East Boston.
- Dartmouth street, over Boston & Albany Railroad.
- * Dorchester avenue (formerly Federal street), over Fort Point channel.
- * Dover street, over Fort Point channel.
- Ferdinand street, over Boston & Albany Railroad.
- Florence street, over Stony brook, West Roxbury.
- Gainsborough street (footbridge), over N. Y., N. H. & H. Railroad, Providence Division.

Gold street (footbridge), over N. Y., N. H. & H. Railroad, Midland Division.

Huntington avenue, over Boston & Albany Railroad.

Hyde Park avenue, over Stony brook, West Roxbury.

Ipswich street, over waterway.

Irvington street (footbridge), over N. Y., N. H. & H. Railroad, Providence Division.

* L street, over reserved channel at junction of Summer and L streets.

* Malden, from Charlestown to Everett.

Massachusetts avenue, over Boston & Albany Railroad.

Massachusetts avenue, over N. Y., N. H. & H. Railroad, Providence Division.

* Meridian street, from East Boston to Chelsea.

* Northern avenue, over Fort Point channel.

Shawmut avenue, over Boston & Albany and N. Y., N. H. & H. Railroad, Providence Division.

Southampton street, east of N. Y., N. H. & H. Railroad, Midland Division.

Summer street, over A street.

Summer street, over B street.

Summer street, over C street.

* Summer street, over Fort Point channel.

* Warren, from Boston to Charlestown.

West Newton street, over N. Y., N. H. & H. Railroad, Providence Division.

West Rutland square (footbridge), over N. Y., N. H. & H. Railroad, Providence Division.

Winthrop, from Breed's Island to Winthrop.

In Charge of Highway Division and Park Department.

Columbia road, over N. Y., N. H. & H. Railroad, Plymouth Division.

Columbia road, over Shoreham street.

In Charge of Park Department.

Agassiz, in Fens.

Arborway, in Arborway, over Stony brook.

Audubon, in Riverway, over Boston & Albany Railroad.

Bernier street (footbridge), over Muddy river.

Boylston, in Fens, over waterway.

Bridle path, in Riverway, over Muddy river.

* Castle Island, in Marine Park, South Boston to Castle Island.

Charlesgate, in Fens, over Boston & Albany Railroad.

Circuit drive, over Scarboro pond, in Franklin Park.

Commonwealth avenue, in Fens, over waterway.

Ellicott Arch, in Franklin Park.

Fens, in Fens.

Forest Hills, in Franklin Park.

Leverett pond (foot), in Leverett Park.

Neptune, in Wood Island Park, over Boston, Revere Beach & Lynn Railroad.

Scarboro pond (foot), in Franklin Park.

Wood Island (foot), in Wood Island Park.

In Charge of Public Grounds Department.

Public Garden (footbridge).

II.— BRIDGES OF WHICH BOSTON MAINTAINS THE PART WITHIN ITS LIMITS.

In Charge of Highway Division (Bridge Service).

Central avenue, from Dorchester to Milton.

* Chelsea North, from Charlestown to Chelsea.

* Granite, from Dorchester to Milton.

Milton, from Dorchester to Milton.

* Neponset, from Dorchester to Quincy.

* North Beacon street, from Brighton to Watertown.

Spring street, from West Roxbury to Dedham.

* Western avenue, from Brighton to Watertown.

In Charge of Park Department.

Bellevue street, in the Riverway, over Muddy river.

Bernier street (footbridge), over Muddy river.

Brookline avenue, in the Riverway, over Muddy river.

Huntington avenue, in the Riverway, over Muddy river.

Longwood avenue, in the Riverway, over Muddy river.

III.— BRIDGES OF WHICH BOSTON PAYS A PART OF THE COST OF MAINTENANCE.

In Charge of Highway Division (Bridge Service).

Albany street, over Boston & Albany Railroad (over freight tracks).

Ashmont street, junction Dorchester avenue and Talbot avenue, over N. Y., N. H. & H. Railroad, Plymouth Division (75 feet south of northerly end).

Harvard street, over N. Y., N. H. & H. Railroad, Midland Division.

Norfolk street, over N. Y., N. H. & H. Railroad, Midland Division, near Dorchester station.

In Charge of Commissioners for Boston and Cambridge Bridges.

Brookline street, from Brighton to Cambridge.

Cambridge, from Boston to Cambridge.

* Cambridge street, from Brighton to Cambridge.

* Harvard, from Boston to Cambridge.

* North Harvard street, from Brighton to Cambridge.

* Prison Point, from Charlestown to Cambridge.

* Western avenue, from Brighton to Cambridge.

IV.— BRIDGES OF WHICH BOSTON MAINTAINS THE WEARING SURFACE.

In Charge of Highway Division (Bridge Service).

Bennington street, over the Boston & Albany Railroad.
 Blue Hill avenue, over N. Y., N. H. & H. Railroad, Midland Division.
 Boston street, over N. Y., N. H. & H. Railroad, Plymouth Division.
 Brookline street, Brighton to Cambridge, portion over the Boston & Albany Railroad.
 Cambridge street, Charlestown, over Boston & Maine Railroad.
 Chelsea, over Boston & Maine Railroad.
 Curtis street, East Boston, over the Boston & Albany Railroad.
 Dorchester avenue, over N. Y., N. H. & H. Railroad, Plymouth Division.
 Everett street, over Boston & Albany Railroad, Brighton.
 Maverick street, East Boston, over Boston & Albany Railroad.
 Norfolk street, over N. Y., N. H. & H. Railroad, Midland Division, near Mattapan station.
 Oakland street, over N. Y., N. H. & H. Railroad, Midland Division, Mattapan.
 Perkins street (footbridge), over Boston & Maine Railroad.
 Porter street, over Boston & Albany Railroad.
 Prescott street, over Boston & Albany Railroad.
 Saratoga street, over Boston & Albany Railroad.
 Southampton street, over N. Y., N. H. & H. Railroad, Plymouth Division.
 Summer street, over N. Y., N. H. & H. Railroad, Midland Division.
 Sumner street, East Boston, over Boston & Albany Railroad.
 Webster street, East Boston (footbridge), over Boston & Albany Railroad.
 West Fourth street, over N. Y., N. H. & H. Railroad, Plymouth Division.

V.— BRIDGE MAINTAINED BY CHARLES RIVER BASIN COMMISSION.

Charles River Dam (formerly Craigie's Bridge).

VI.— BRIDGE MAINTAINED BY METROPOLITAN PARK COMMISSION.

Mattapan Bridge.

VII.— BRIDGES MAINTAINED BY RAILROAD CORPORATIONS.

1st.— Boston & Albany Railroad.

Albany street (over passenger tracks).
 Harrison avenue.

Market street, Brighton.
Tremont street.
Washington street.

2d.— Boston & Maine and Boston & Albany Railroads.

Main street.
Mystic avenue.

3d.— Boston & Maine Railroad, Eastern Division.

Wauwatosa avenue, East Boston.

4th.— Boston, Revere Beach & Lynn Railroad.

Everett street.

5th.— New York, New Haven & Hartford Railroad, Midland Division.

Dorchester avenue.
Morton street, Dorchester.
Washington street, Dorchester.
Silver street.
West Broadway.
West Fifth street.
West Fourth street.
West Second street.
West Sixth street.
West Third street.

6th.— New York, New Haven & Hartford Railroad, Plymouth Division.

Adams street.
Cedar Grove Cemetery.
Freeport street.
Medway street.
Savin Hill avenue.

7th.— New York, New Haven & Hartford Railroad, Providence Division.

Albany street. (New part.)
Baker street, West Roxbury.
Beech street, West Roxbury.
Bellevue street, West Roxbury.
Berkeley street. (New part.)
Broadway. (New part.)
Canterbury street, West Roxbury.
Castle square.
Centre and Mt. Vernon streets, West Roxbury.
Columbus avenue. (New part.)
Dartmouth street. (New part.)

Gardner street, West Roxbury.
 Harrison avenue. (New part.)
 Park street, West Roxbury.
 Walworth street, West Roxbury.
 Washington street. (New part.)

RECAPITULATION OF BRIDGES.

I. Number wholly maintained by Boston:		
In charge of Highway Division	54	
In charge of Highway Division and Park Department	2	
In charge of Park Department	17	
In charge of Public Grounds Department	1	
	—	74
II. Number of which Boston maintains the part within its limits:		
In charge of Highway Division	8	
In charge of Park Department	5	
	—	13
III. Number of which Boston pays a part of the cost of maintenance:		
In charge of Highway Division	4	
In charge of Commissioners for Boston and Cambridge Bridges	7	
	—	11
IV. Number of which Boston maintains the wearing surface		21
V. Number maintained by Charles River Basin Commission		1
VI. Number maintained by Metropolitan Park Commission		1
VII. Number maintained by railroad corporations:		
1. Boston & Albany Railroad	5	
2. Boston & Maine and Boston & Albany Railroads	2	
3. Boston & Maine Railroad, Eastern Division	1	
4. Boston, Revere Beach & Lynn Railroad	1	
5. New York, New Haven & Hartford Railroad, Midland Division	10	
6. New York, New Haven & Hartford Railroad, Plymouth Division	5	
7. New York, New Haven & Hartford Railroad, Providence Division	16	
	—	40
Total number		<u>161</u>

LAND AND BUILDINGS IN CHARGE OF HIGHWAY DIVISION
(BRIDGE SERVICE).

South Yard and Stable.— 170 Broadway extension, South Boston — 5,516 feet of land on Broadway extension and Dorchester avenue, on which is a brick building containing an office, workshop and stable.

Atlantic Avenue Bridge.— Draw house, motor house and tool house.

Broadway Bridge.— Draw house and one storehouse.

Charlestown Bridge.— Draw house, electrical power room and six storehouses.

Chelsea North Bridge.— Draw house.

Chelsea South Bridge.— Draw house and engine house.

Congress Street Bridge.— Draw house, storehouse and two shelter houses.

Cottage Street Footbridge.— Watchman's house.

Dover Street Bridge.— Draw house and two shelter houses.

Dorchester Avenue Bridge.— Draw house, tool shed, two motor houses, one controller house.

L Street Bridge.— Draw house, engine house.

Malden Bridge.— Draw house.

Meridian Street Bridge.— Draw house.

Neponset Bridge.— Tool house.

Northern Avenue Bridge.— Draw house, containing a power room and storage room for compressed air.

Summer Street Bridge.— Draw house, controller house, two shelter houses.

Warren Bridge.— Stable, draw house, containing an engine room and boiler room and a tool house.

Western Avenue Bridge to Watertown.— Tool house.

List of Small Bridges or Culverts having Wooden Tops, which are Repaired by Highway Division (Bridge Service).—Walls Repaired and Openings Cleaned by Sewer Department.

LOCATION.	Span, Feet.	Height of Opening, Feet.	Length, Feet.	Side Walls.	Covering.
Ashland and Canterbury streets, near Calvary Cemetery, W. Roxbury,	7.6	5.5	75	Stone.....	Wood.
Beech street, near Anawan avenue, at Central Station, West Roxbury..	4.0	4.0	50	Stone.....	Wood.
Cass street, near Spring Street Station, West Roxbury.....	7.0	3.0	21	Stone.....	Wood.
Cohasset street, Roslindale.....	14.0	7.5	60	Stone.....	Wood.
Gardner street, near Cow Island, West Roxbury.....	5.0	5.5	33	Wood.....	Wood.
Jamaica street, Jamaica Plain.....	10.0	4.0	39	Stone.....	Wood.
Park street, west of Dorchester avenue, Dorchester.....	5.0	3.7	50	Stone.....	Wood.
Park street, west of New York, New Haven & Hartford Railroad, Dor...	8.5	5.0	50	Stone.....	Wood.
Spring street, near Spring Street Station, West Roxbury.....	2.7	2.7	63	Stone.....	Wood.
Summer street, near Spring Street Station, West Roxbury.....	4.0	4.5	40	Stone.....	Wood.
Williams street, at Stony brook, West Roxbury.....	5.0	5.0	50	Wood.....	Wood.
Woodman street, Jamaica Plain.....	6.3	4.0	65	Stone.....	Wood.

Table Showing the Widths of Openings for Vessels in all Bridges Provided with Draws in the City of Boston in January, 1910.

NAME OF BRIDGE.	Location.	Number of Openings.	Width.
Atlantic avenue	Over Fort Point channel	1	42 feet 6 inches.
Boston & Maine Railroad, Eastern Division	Boston to Charlestown	1	39 " 8 "
Boston & Maine Railroad, Eastern Division	Over Miller's river	1	35 " 10 "
Boston & Maine Railroad, Fitch- burg Division	Boston to Charlestown	1	36 " 7 "
Boston & Maine Railroad, Fitch- burg Division (for teaming freight)	" "	1	36 " 7 "
Boston & Maine Railroad (freight), Southern Division	Boston to East Cambridge	1	39 " 10 "
Boston & Maine Railroad (passen- ger), Southern Division	" "	1	39 " 8 "
Boston & Maine Railroad, Western Division	Boston to Charlestown	1	39 " 8 "
Boston & Maine Railroad, Western Division	Over Miller's river	1	36 " 0 "
Broadway	Over Fort Point channel	1	42 " 7 "
Cambridge street	Brighton to Cambridge	1	36 " 4 "
Charlestown (main channel)	Boston to Charlestown	2	50 " 0 "
Charlestown (north channel)	" "	49	" 9 "
Chelsea (north channel)	Charlestown to Chelsea	1	60 " 0 "
Chelsea (south channel)	" "	1	38 " 9 "
Chelsea street	East Boston to Chelsea	1	60 " 0 "
Commercial Point (or Tenean)	Dorchester	1	24 " 2 "
Congress street	Over Fort Point channel	1	50 " 0 "
Dorchester avenue	" "	1	41 " 4 "
Dover street	" "	1	40 " 0 "
Grand Junction Railroad	Brighton to Cambridge	1	39 " 0 "
Grand Junction Railroad	East Boston to Chelsea	1	60 " 0 "
Granite	Dorchester to Milton	1	36 " 0 "
Harvard (Boston side)	Boston to Cambridge	2	36 " 6 "
Harvard (Cambridge side)	" "	36	" 10 "
L street	Over reserved channel, South Boston	1	39 " 8 "
Lock	Charles River Dam	1	45 " 0 "
Malden	Charlestown to Everett	1	50 " 0 "
Meridian street (East Boston side)	East Boston to Chelsea	2	59 " 2 "

Table Showing Widths of Openings, etc.—*Concluded.*

NAME OF BRIDGE.	Location.	Number of Openings.	Width.
Meridian street (Chelsea side).....	East Boston to Chelsea.....	.....	59 feet 0 inches.
Neponset.....	Dorchester to Quincy.....	1	36 " 0 "
New York, New Haven & Hartford Railroad.....	Over Fort Point channel.....	1	41 " 9 "
New York, New Haven & Hartford Railroad, Y-connection.....	" ".....	1	42 " 0 "
New York, New Haven & Hartford Railroad, Plymouth Division....	Dorchester to Quincy.....	1	51 " 0 "
North Beacon street.....	Brighton to Watertown.....	1	30 " 0 "
North Harvard street.....	Brighton to Cambridge.....	1	36 " 0 "
Northern avenue.....	Over Fort Point channel.....	2	75 " 0 "
Prison Point.....	Charlestown to Cambridge....	1	37 " 6 "
Summer street.....	Over Fort Point channel.....	1	50 " 0 "
Warren.....	Boston to Charlestown.....	1	36 " 0 "
Western avenue.....	Brighton to Cambridge.....	1	36 " 0 "
Western avenue.....	Brighton to Watertown.....	1	35 " 10 "

THE RULES AND REGULATIONS GOVERNING THE OPENING OF DRAWBRIDGES.

In accordance with the provisions of the River and Harbor Act of 1894, the following rules and regulations, taking effect May 12, 1910, are prescribed to govern the opening of the draws in the bridges crossing Boston Harbor, and the navigable waters tributary to the said harbor.

BRIDGES WITHOUT CLOSED HOURS.

1. The draw in each and every bridge hereafter named in this paragraph shall, upon the signal prescribed being given, be opened promptly at all hours for the passage of any vessel or vessels or other water craft not able to pass underneath it: *provided*, that when the draw in any of the said bridges shall have been opened for ten (10) minutes or longer it may be closed for the crossing of trains, cars, vehicles or individuals, if any be waiting to cross, and after being so closed for ten (10) minutes or for such shorter time as may be necessary for the said trains, cars, vehicles or individuals to cross, it shall be again opened promptly for the

passage of vessels or other water craft if there be any such desiring to pass. The requirements of this paragraph shall apply to each and every one of the following-named bridges, so called, to wit:

Across Chelsea Creek or Chelsea River.— Meridian Street Bridge, Chelsea Street Bridge and Grand Junction Railroad Bridge.

Across Mystic River.— Wellington Bridge.

Across Malden River.— Malden River Bridge on Revere Beach Parkway and Medford Street Bridge at Malden.

Across Charles River.— Grand Junction Railroad Bridge, Cambridge Street Bridge, Western Avenue Bridge, North Harvard Street Bridge, Arsenal Street (Western Avenue) Bridge and North Beacon Street (Market Street) Bridge.

Across Reserved Channel.— L Street Bridge, South Boston.

Across Neponset River.— New York, New Haven and Hartford Railroad Bridge, Neponset Avenue Bridge and Granite Bridge.

Across Weymouth Fore River.— Quincy Point Bridge and East Braintree Bridge.

Across Weymouth Back River.— Hingham Bridge.

Across Crystal Cove.— Boston, Revere Beach and Lynn Railroad Bridge.

Across Tenean Creek.— Commercial Point or Tenean Bridge.

BRIDGES WITH CLOSED HOURS.

2. Between the hours of 9 a. m. and 4.30 p. m. and between the hours of 7 p. m. and 6.30 a. m. on week days, and at all hours on Sunday, and on legal holidays observed in the locality, the draws in each and every bridge hereafter named in this paragraph shall, upon the signal prescribed being given, be opened promptly for the passage of any vessel or vessels or other water craft not able to pass underneath it: *provided*, that when the draw in any of the said bridges shall have been open for ten (10) minutes or longer, between the hours aforesaid, it shall be closed for the crossing of trains, cars, vehicles or individuals, if any be waiting to cross, and after being so closed for ten (10) minutes or for such shorter time as may be necessary for the said trains, cars, vehicles or individuals to cross, it shall be again opened promptly for the passage of vessels or other water craft if there be any such desiring to pass. Between the hours of 6.30 a. m. and 9 a. m., and between the hours of 4.30 p. m. and 7 p. m., the draws in the bridges hereafter named in this paragraph shall not be required to be opened on week days for the passage of any vessel, vessels or other water craft excepting during the periods between 7.05 a. m. and 7.15 a. m., between 8 a. m. and 8.10 a. m., between 5.20

p. m. and 5.30 p. m., and between 6.20 p. m. and 6.30 p. m., and excepting also as provided in paragraphs 4, 5 and 11 of these rules and regulations. The requirements of this paragraph shall apply to each and every one of the following-named bridges, so called, to wit:

Across Mystic River.—Chelsea Bridge South, Chelsea Bridge North, Malden Bridge, Boston & Maine (Eastern Division) Railroad Bridge, and Boston & Maine (Western Division) Railroad Bridge.

Across Charles River.—Harvard Bridge.

Across Fort Point Channel.—Northern Avenue Bridge, Congress Street Bridge and Summer Street Bridge.

3. Between the hours of 9.10 a. m. and 4.15 p. m. and between the hours of 7.40 p. m. and 6.15 a. m. on week days, and at all hours on Sundays, and on legal holidays observed in the locality, the draws in each and every bridge hereafter named in this paragraph shall, upon the signal prescribed being given, be opened promptly for the passage of any vessel or vessels or other water craft not able to pass underneath it: *provided*, that when the draw in any of the said bridges shall have been opened for ten (10) minutes or for such shorter period as may be necessary for the passage of vessels or other water craft desiring to pass, between the hours aforesaid, it shall be closed for the crossing of trains, cars, vehicles or individuals, if any be waiting to cross, and after being so closed for ten (10) minutes or for such shorter time as may be necessary for the said trains, cars, vehicles or individuals to cross, it shall be again opened promptly for the passage of vessels or other water craft, if there be any such desiring to pass. Between the hours of 6.15 a. m. and 9.10 a. m. and between the hours of 4.15 p. m. and 7.40 p. m. the draws in the bridges hereafter named in this paragraph shall not be required to be opened on week days for the passage of any vessel, vessels or other water craft excepting that when the tide is high at Charlestown Navy Yard between 6.15 a. m. and 9.10 a. m., the draw-bridges hereafter named in this paragraph shall be opened for a period between 6.15 a. m. and 9.10 a. m. not exceeding ten (10) minutes and within forty-five (45) minutes before or after said high tide for the passage of all vessels or other water craft when of a draft of twelve (12) feet or over, if there be any such desiring to pass; the exact time of opening within the prescribed limits of 45 minutes before and after said high tide to be prescribed by the railroad companies, due regard being had for causing minimum interference with

railroad schedules, highway traffic, and the interests of navigation. The opening time of each bridge shall be so fixed as to permit continuous passage through the next and following bridges located in direction of course of vessel or other water craft.

Across Charles River.—Charlestown Bridge, Warren Bridge, Boston & Maine (formerly Fitchburg) Railroad Bridge, for teams, Boston & Maine (formerly Fitchburg) Railroad Bridge, Boston & Maine Railroad Bridge, Boston & Maine (formerly Eastern) Railroad Bridge, Boston & Maine (formerly Lowell passenger) Railroad Bridge, Boston & Maine (formerly Lowell freight) Railroad Bridge, Craigie Temporary Bridge, Boston Elevated Railway Bridge and Charles River Dam Bridge.

Across Fort Point Channel.—Dorchester Avenue Bridge, Atlantic Avenue (Cove Street) Bridge, New York, New Haven & Hartford Railroad Bridge, New York, New Haven & Hartford (Y connection) Railroad Bridge, Broadway Bridge, Dover Street Bridge and New York, New Haven & Hartford (South Bay junction) Railroad Bridge.

4. The draw in Chelsea Bridge North shall, upon the signal prescribed being given, be opened promptly at all hours for the passage of any vessel, vessels or other water craft whose draft is eighteen (18) feet or more; and any vessel, vessels or other water craft proceeding upstream that, during any of the periods on week days from 7.05 a. m. to 7.15 a. m., 8 a. m. to 8.10 a. m., 5.20 p. m. to 5.30 p. m., and 6.20 p. m. to 6.30 p. m., shall have passed through Chelsea Bridge North, or through any other bridge across Mystic river between Chelsea Bridge North and Boston & Maine (Western Division) Railroad Bridge, shall be passed promptly on signal through each and all of the bridges located upstream from Chelsea Bridge North, the provisions of paragraph 2 of these rules and regulations to the contrary notwithstanding; and any vessel, vessels or other water craft proceeding downstream that during any of the aforesaid periods shall have passed through Boston & Maine (Western Division) Railroad Bridge or through any other bridge across Mystic river between Boston & Maine (Western Division) Railroad Bridge and Chelsea Bridge North shall be passed promptly on signal through each and all of the bridges located downstream from Boston & Maine (Western Division) Railroad Bridge, the provisions of paragraph 2 of these rules and regulations to the contrary notwithstanding.

5. The draws in Northern Avenue Bridge, Congress Street Bridge and Summer Street Bridge shall, upon the signal prescribed being given, be opened promptly at all hours for the passage of any vessel, vessels or other water craft whose draft is eighteen (18) feet or more.

Any vessel, vessels or other water craft proceeding upstream through Northern Avenue Bridge shall be afforded continuous passage through Congress Street Bridge and Summer Street Bridge; and any vessel, vessels or other water craft proceeding downstream through Summer Street Bridge shall be afforded continuous passage through Congress Street Bridge and Northern Avenue Bridge, the provisions of paragraph 2 of these rules and regulations to the contrary notwithstanding.

6. The length of time that a draw has been open shall be computed from the time that the draw span begins to move in opening, and the length of time that a draw has been closed shall be computed from the time that the draw span ceases to move in closing.

7. These rules and regulations shall not apply to steam vessels owned or leased by the United States, nor shall they apply to vessels employed by the City of Boston or other municipality for police and fire protection. All such United States and municipal vessels shall be passed without delay through the draws of all bridges, at any hour of the day or night, upon signalling by four (4) long blasts of the whistle.

Number of Vessels Passing Through the Drawbridges Controlled by the City of Boston, February 1, 1909,
to January 31, 1910, Inclusive.

	STEAMERS.			SAILING VESSELS.			TUGS.			ALL OTHERS.			TOTAL NUMBER VESSELS.			Total Num-ber of Cargoes.	Total Num-ber of Openings.
	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.		
Atlantic avenue.....	45	20	65	792	98	890	3,835	489	4,324	1,614	148	1,762	6,286	755	7,041	1,329	3,163
Broadway.....	44	17	61	800	92	892	3,748	455	4,203	1,775	143	1,918	6,367	707	7,074	1,390	2,333
Charlestown.....				517	94	611	3,038	764	3,802	1,935	553	2,488	5,490	1,411	6,901	1,470	1,668
Chelsea North.....	360	31	391	700	26	726	7,258	605	7,863	3,213	312	3,525	11,531	974	12,505	2,040	5,938
Chelsea South.....	16	2	18	352	23	375	4,912	325	5,237	3,175	176	3,351	8,455	526	8,981	2,078	4,272
Chelsea street*.....				5		5	43	5	48	24	2	26	72	7	79	14	52
Congress street.....	130	28	158	974	107	1,081	6,107	704	6,811	2,288	192	2,480	9,499	1,031	10,530	1,604	5,284
Dorchester avenue.....	40	20	60	798	94	892	3,854	484	4,338	1,830	157	1,987	6,522	755	7,277	1,354	3,514
Dover street.....	41	17	58	755	77	832	3,435	375	3,810	1,414	106	1,520	5,645	575	6,220	1,216	2,779
Granite.....				5		5	218	4	222	99	2	101	322	6	328	46	183
L street.....				188	35	223	3,188	330	3,518	2,179	373	2,552	5,555	738	6,293	922	4,352
Malden.....				60	4	64	1,171	229	1,400	729	183	912	1,960	416	2,376	426	1,218
Meridian street.....	980	173	1,153	427	25	452	8,828	1,480	10,308	3,824	774	4,598	14,059	2,452	16,511	2,647	8,935
Neponset.....	1		1	14		14	333		333	142		142	490		490	76	298
North Beacon street.....							12	1	13	38	1	39	50	2	52	5	19
Northern avenue.....	240	73	313	1,080	105	1,185	10,132	1,523	11,655	4,796	835	5,631	16,248	2,536	18,784	2,848	8,072
Summer street.....	130	28	158	974	107	1,081	6,101	703	6,804	2,250	191	2,441	9,455	1,029	10,484	1,602	5,196
Warren.....	11	3	14	518	86	604	2,752	715	3,467	1,660	518	2,178	4,941	1,322	6,263	1,298	3,564
Western avenue to Water- town.....							99	1	100	77	1	78	176	2	178	23	98
Totals.....	2,038	412	2,450	8,959	973	9,932	69,064	9,192	78,256	33,062	4,667	37,729	113,123	15,244	128,367	22,388	60,938

* December, 1909, and January, 1910, only.

The following is a description of the most important work done during the year under the supervision of the Chief Engineer.

HIGHWAY DIVISION (PAVING SERVICE).

Albany street from Broadway to Dover street, about 1,116 feet in length, was repaved with large granite blocks on a six (6) inch Portland cement concrete base, with pitch and pebble joints, by the F. S. & A. D. Gore Corporation, under contract, which also did the excavating and regulating. The old paving blocks were hauled to the Albany Street Yard and to the Massachusetts avenue lot by the contractor. The edgestone and bricks were furnished by the city on the line of the work. Part of the crushed stone for the concrete base was furnished by the city at the Columbia road crusher and was hauled by the contractor. The balance of the crushed stone, paving blocks, flagging and other materials necessary for the paving were furnished by the contractor. In connection with this work Broadway extension, between the two bridges, was repaved with the existing granite blocks, with pitch and pebble joints. The existing concrete base was brought up to the proper grade with new Portland cement concrete. This work was necessitated by a general settlement of the tracks, roadway and sidewalks. The former surface on Albany street was granite blocks on a gravel base with gravel joints.

Atlantic avenue, at the intersection of Congress street, for a distance of about 227 feet along the avenue, was repaved with the existing granite blocks, with pitch and pebble joints. The old concrete base was brought up to the proper grade with Portland cement concrete. The work was done under contract by the Frank H. Cowin Company, which also did the excavating and regulating. This work was necessitated by the settlement of the old pavement at this place, which was particularly bad along the Union Freight Company's tracks.

Causeway street, southerly side, from Portland street to Canal street, was repaved with the existing granite blocks, with pitch and pebble joints. The old concrete base was brought up to the proper grade with new Portland cement. This work was done under contract by John T. Shea, Jr. Causeway street, from Canal street, about 93 feet, towards Haverhill street, was also repaved at this time. All of this work was necessitated by a bad settlement of the pavement. The former pavement was granite block on a concrete base with pitch and pebble joints.

East street, from Atlantic avenue to South street, about 248 feet in length, was repaved with new, large granite blocks on a six (6) inch Portland cement concrete base, with pitch and pebble joints, by the F. S. & A. D. Gore Corporation, under contract, which also did the excavating and regulating. The paving

blocks, flagging and other materials necessary for the paving were furnished by the contractor. The crushed stone for the concrete base was furnished at the Columbia road crusher and hauled by the contractor. The edgestone was furnished by the city at the South End Paving Yard and hauled by the contractor. The old paving blocks were removed and hauled to the South Yard by the contractor. The former pavement was granite block on a gravel base with gravel joints.

Ford's run, from South Market street to Clinton street, about 208 feet in length, was repaved with the existing granite blocks on a gravel base, with pitch joints. This work was done by Joseph B. O'Rourke & Co., and it was necessitated in order that the grade of this street might conform to that of South Market street. The former pavement was granite block on a gravel base with gravel joints.

Massachusetts avenue, from Southampton street to the bridge over the Midland Division of the New York, New Haven & Hartford Railroad, about 2,755 feet in length, was paved with a special granite block, five (5) inches in depth, on a Portland cement concrete base, with pitch and pebble joints. The work was done by the F. S. & A. D. Gore Corporation, under contract, which also did the excavating and regulating. The new paving blocks and sidewalk bricks were furnished by the city on the line of the work. The straight edgestone was furnished by the city and hauled by the contractor. The crushed stone for the concrete base and all other materials necessary for the paving were furnished by the contractor. The surplus excavated material was hauled to Old Colony avenue by the contractor. The former surface of the street was macadam.

North street, from Blackstone street to Richmond street, about 778 feet in length, was repaved with new, large granite blocks on a six (6) inch Portland cement concrete base, with pitch and pebble joints. The work was done under contract by the F. S. & A. D. Gore Corporation, which also did the excavating and regulating. The paving blocks, flagging, crushed stone and other materials necessary for the paving were furnished by the contractor. The edgestone and sidewalk bricks were furnished by the city on the line of the work. The old paving blocks were hauled to the Revere Street Yard by the contractor. The former pavement was granite blocks on a gravel base with gravel joints.

South Market street, from Commercial street to Atlantic avenue, about 689 feet in length, was repaved with new, large granite blocks on a six (6) inch Portland cement concrete base, with pitch and pebble joints. The work was done under contract by Joseph B. O'Rourke & Co., who also did the excavating and regulating. The paving blocks, flagging, crushed stone for the concrete base and other materials necessary for the paving were furnished by the contractor. The edgestone and sidewalk bricks were furnished by the city on the line of

the work. The old paving blocks were hauled by the contractor to the South Yard. The former pavement was granite block on a gravel base with gravel joints.

Washington street, from Green street to the Arborway, is about 3,442 feet in length. The edgestone, which for the greater part is new, has been set on the westerly side of the street and the roadway has been paved on the westerly side, between the curb and the car track, from Williams street to the Arborway, with special granite blocks, five (5) inches in depth, on a six (6) inch Portland cement concrete base, with pitch and pebble joints. The work was done under contract by John F. O'Connell, who also did the excavating and regulating. The old gutter blocks, cobbles and crossing blocks were hauled to the Rosemary Street Yard by the contractor. The new paving blocks were furnished by the city on the line of the work. The straight edgestone was furnished by the city at the South Yard and hauled by the contractor. The circular edgestone, flagging, crushed stone for the concrete base and other materials necessary for the paving were furnished by the contractor. The Boston Elevated Railway Company has relaid its westerly track on a concrete base. Work will be resumed on this street early in the spring.

ASPHALT.

Batterymarch street, from Milk street towards Broad street, about 221 feet in length, was paved by Jones & Meehan with two (2) inches of American rock asphalt wearing surface on a granite block base, with gravel joints, under a five (5) year maintenance guarantee. The existing granite blocks were relaid and the surface rolled with a steam roller. Upon this granite block base the asphalt was then laid. The sidewalk bricks, flagging and edgestone were furnished by the city on the line of the work. The former surface was granite blocks on a gravel base with gravel joints.

Beacon street, from the easterly side of Dartmouth street to the easterly side of Hereford street, about 2,285 feet in length, was resurfaced by the Barber Asphalt Paving Company, under a five (5) year maintenance guarantee, with one and one-half ($1\frac{1}{2}$) inches of Trinidad asphalt wearing surface and one and one-half ($1\frac{1}{2}$) inches of bituminous concrete binder upon the existing concrete base, which was cleaned off and brought to within three (3) inches of the finished surface of the roadway with Portland cement concrete. The regulating of the edgestone, brick sidewalks and flagging was done by the contractor. The sidewalk bricks were furnished by the city on the line of the work, and the flagging at the South Yard. The former surface was Trinidad asphalt on a six (6) inch concrete base.

Charles street, from the south side of Fruit street across Allen street, about 721 feet in length, was resurfaced by the Barber

Asphalt Paving Company, under a one (1) year maintenance guarantee, with one and one-half ($1\frac{1}{2}$) inches of Trinidad wearing surface and one and one-half ($1\frac{1}{2}$) inches of bituminous concrete binder upon the existing concrete base, which was cleaned off and brought to within three (3) inches of the finished surface of the roadway with Portland cement concrete. The track area, brows and dummy were repaved with granite blocks on a six (6) inch Portland cement concrete base with pitch and pebble joints. The track area was paved by the Boston Elevated Railway Company and the brows and dummy by the contractor. The granite paving blocks and flagging were furnished by the city on the line of the work. The former surface was Trinidad asphalt on a six (6) inch concrete base.

Devonshire street, from Water street to Milk street, about 262 feet in length, was resurfaced by the Barber Asphalt Paving Company, under a one (1) year maintenance guarantee, with one and one-half ($1\frac{1}{2}$) inches of Trinidad asphalt wearing surface and one and one-half ($1\frac{1}{2}$) inches of bituminous concrete binder upon the existing concrete base, which was cleaned off and brought to within three (3) inches of the finished surface of the roadway with Portland cement concrete. The contractor also did the excavating and regulating. This work was necessitated by settlements due to building operations.

Harrison avenue, from Malden street to East Dedham street, about 382 feet in length, was paved with one and one-half ($1\frac{1}{2}$) inches of Acme asphalt wearing surface and one and one-half ($1\frac{1}{2}$) inches of bituminous concrete binder on a six (6) inch Portland cement concrete base, by Warren Brothers Company, under a five (5) year maintenance guarantee. The contractor also did the excavating and regulating. The track area, brows and dummy were paved with granite blocks on a six (6) inch Portland cement concrete base with pitch and pebble joints, the area occupied by the tracks being paved by the Boston Elevated Railway Company and the dummy and brows by the contractor. The edgestones, paving blocks and flagging were furnished by the city and hauled by the contractor. The sidewalk bricks were furnished by the city on the line of the work. The old granite blocks were hauled by the contractor to the Massachusetts avenue lot. The former surface was granite block on a gravel base with gravel joints.

Kirkland street, from Pleasant street to Corning street, about 534 feet in length, was paved from Pleasant street to about 130 feet north of Corning street with one and one-half ($1\frac{1}{2}$) inches of Acme asphalt wearing surface and one and one-half ($1\frac{1}{2}$) inches of bituminous concrete binder on a six (6) inch Portland cement concrete base by Warren Brothers Company, under a five (5) year maintenance guarantee, and from 130 feet north of Corning street to Corning street was paved with large granite blocks on a six (6) inch Portland cement concrete base with pitch and pebble joints. The contractor also did the excavating

and regulating. The granite blocks and flagging were furnished by the city at the South Yard and hauled by the contractor. The sidewalk bricks were furnished by the city on the line of the work. The old paving blocks and flagging were hauled by the contractor to the South Yard. The former surface was macadam.

Massachusetts avenue, from Boylston street to Newbury street, about 186 feet in length, was resurfaced with one and one-half ($1\frac{1}{2}$) inches of Acme asphalt wearing surface and one and one-half ($1\frac{1}{2}$) inches of bituminous concrete binder by Warren Brothers Company, under a five (5) year maintenance guarantee. The existing concrete base was cleaned off and brought to within three (3) inches of the finished surface of the roadway with Portland cement concrete. Near the bridge a new six (6) inch Portland cement concrete base was laid. The track area, brows and dummy were paved with large granite blocks on a six (6) inch Portland cement concrete base with pitch and pebble joints, the track area being paved by the Boston Elevated Railway Company and the brows and dummy by the contractor. The granite blocks were furnished by the city on the line of the work. All the other materials were furnished by the contractor, who also did the excavating. This work was necessitated by the change of grade and construction work at the bridge over the Boston & Albany Railroad.

Wheeler street, from Shawmut avenue to Corning street, about 377 feet in length, was paved by the Warren Brothers Company, under a five (5) year maintenance guarantee, with one and one-half ($1\frac{1}{2}$) inches of Acme wearing surface and one and one-half ($1\frac{1}{2}$) inches of bituminous concrete binder on a six (6) inch Portland cement concrete base. The contractor also did the excavating and regulating. The granite blocks and flagging were furnished by the city at the South Yard and hauled by the contractor. The sidewalk bricks were furnished by the city on the line of the work. All the other materials were furnished by the contractor. The old paving blocks and flagging were hauled by the contractor to the South Yard. The former surface was macadam.

WOOD BLOCK PAVING.

Bowdoin street, Dorchester, from Quincy street across Mt. Ida road, about 293 feet in length, was paved with wood blocks on a six (6) inch Portland cement concrete base, with grout bed and joints, by James Doherty, under a five (5) year maintenance guarantee. The track area was paved by the Boston Elevated Railway Company. The excavating and regulating were done by the contractor. The old gutter blocks were hauled to the Hancock Street Yard by the contractor. The flagging and new granite blocks were furnished by the city and hauled by the contractor. The sidewalk bricks were furnished by the city

on the line of the work. All the other materials were furnished by the contractor. The former surface was macadam.

Falmouth street, from Massachusetts avenue across Norway street, about 632 feet in length, was paved with wood blocks on a six (6) inch Portland cement concrete base, with cement grout bed and joints, by James Doherty, under a five (5) year maintenance guarantee. The contractor also did the excavating and regulating. The new edgestone was furnished by the city at the South Yard and hauled by the contractor. The sidewalk bricks, granite blocks and flagging were furnished by the city on the line of the work. The contractor furnished all the other materials. The old gutter blocks were hauled to the Massachusetts avenue lot by the contractor. The former surface was macadam.

Norway street, from Falmouth street across St. Paul street, about 310 feet in length, was paved with wood blocks on a six (6) inch Portland cement concrete base, with cement grout bed and joints, by the United States Wood Preserving Company, under a five (5) year maintenance guarantee. The contractor also did the excavating and regulating. The new granite blocks and sidewalk bricks were furnished by the city on the line of the work. All the other materials were furnished by the contractor. The old gutter blocks were hauled to the Massachusetts avenue lot by the contractor. The former surface was macadam.

St. Paul street, from Falmouth street to Norway street, about 301 feet long, was paved with wood blocks on a six (6) inch Portland cement concrete base, on a cement grout bed and joints, by the United States Wood Preserving Company, under a five (5) year maintenance guarantee. The contractor also did the excavating and regulating. The sidewalk bricks were furnished by the city on the line of the work. All the other materials were furnished by the contractor. The old gutter blocks were hauled to the Massachusetts avenue lot by the contractor. The former surface was macadam.

BRICK BLOCK PAVING.

Derne street, from Temple street to Hancock street, about 200 feet in length, was paved with Mack brick blocks on a six (6) inch Portland cement concrete base, with grout joints, by John E. Burns & Co., under a five (5) year maintenance guarantee. The contractor also did the excavating and regulating. The former surface was asphalt blocks on a concrete base.

Downing street, from Vernon street to Whittier street, 323 feet in length; *Hampshire street*, from Ruggles street to Linden Park street, 1,361 feet in length; *Linden Park street*, from Elmwood street across Cabot street, about 1,067 feet in length; *Ruggles street*, from Tremont street to Cabot street, 460 feet in length; *Simmons street*, from Vernon street to Linden Park street,

645 feet in length; *Vernon street*, from Tremont street to Cabot street, about 801 feet in length, and *Whittier street*, from Cabot street to Tremont street and from Tremont street to Columbus avenue, about 740 feet in length, were all paved, under contract, by John E. Burns & Co., with Mack brick blocks on a six (6) inch Portland cement concrete base, with cement grout joints, under a five (5) year maintenance guarantee. The contractor also did the excavating and regulating. All of the existing gravel sidewalks were paved with sidewalk bricks, under an order of the Board of Aldermen. The new straight edgestones, granite paving blocks and flagging were furnished by the city at the South Yard and hauled by the contractor. The old gutter blocks were hauled by the contractor to the Dimock Street Yard. Part of the surplus excavated material was hauled by the contractor to Huntington avenue, part to St. Stephen street and the balance to Avenue Louis Pasteur. The former surface of all of these streets was macadam. That part of Linden Park street from Tremont street across Elmwood street, about 290 feet in length, was paved with special granite blocks on a six (6) inch Portland cement concrete base, with pitch and pebble joints.

ASSESSMENT STREETS.

The following streets have been constructed or are in the process of construction under the provisions of chapter 393 of the Acts of 1906 and the Acts in amendment or addition thereto:

Avenue Louis Pasteur, from Longwood avenue to the Fenway, is about 1,371 feet in length. The contract for constructing the surface of this street was awarded to James Doherty, October 20, 1909. Work was begun October 28, 1909, and suspended December 24, 1909. This street is to be for the greater part 100 feet wide, with an eight (8) inch tar macadam roadway and three (3) foot vitrified brick gutters. The Longwood avenue end is to be constructed in the form of a circle of 93-foot radius and the roadway is to be of vitrified brick on a six (6) inch Portland cement concrete base, with pitch joints. The curbing is to be similar to that used by the Park Department. The sidewalks are to be 25 feet wide, consisting of a loam space 15 feet wide and crushed stone 10 feet wide. This loam space is widened at intervals to 20 feet to form pits for the planting of trees. At these points five (5) feet of the crushed stone walk will overlap the loam space. The excavation for the loam space has been made and the loam has been furnished and placed by the contractor. Work will be resumed early in the spring.

Benton street, from Columbus avenue to Tremont street, is about 351 feet in length. A contract for constructing the surface of this street was awarded to John McCourt & Co., June 2, 1909. Work was begun June 15, 1909, and completed July 10, 1909. It is a thirty-five (35) foot street with a six (6) inch

macadam roadway, three (3) foot granite block gutters, granite edgestone, flagging crosswalks and brick sidewalks six (6) feet in width. The crushed stone for the macadam, the granite blocks for the gutters, the edgestone and sidewalk bricks were furnished by the contractor. The new flagging was furnished by the city and hauled by the contractor.

Belfort street, from Sagamore street to Saxton street, is about 164 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to Joseph B. O'Rourke & Co., June 5, 1909. Work was begun July 6, 1909, and completed October 4, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and a seven (7) foot artificial stone sidewalk. All of the materials were furnished by the contractor. The contract for constructing the artificial stone sidewalks was awarded to Jeremiah J. Sullivan June 2, 1909. Work was begun July 13, 1909, and completed July 16, 1909. These sidewalks are laid under a five (5) year maintenance guarantee. The artificial stone sidewalks on a part of this street had been built previous to construction. They were found to be in good condition and were allowed to remain.

Beaumont street, from Carruth street to Adams street, is about 1,706 feet in length. The work of constructing this street is being done by the department force. Work was begun November 19, 1909, and suspended December 24, 1909. It is a thirty-two (32) foot street and will be built with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestones and five and one-half ($5\frac{1}{2}$) foot artificial stone sidewalks. The edgestone has been set, the gutters paved and most of the roadway and sidewalks have been excavated to the proper sub-grade. Work will be resumed early in the spring.

Carmen street, from Shafter street to Kilton street, is about 648 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to John McCourt & Co. May 20, 1909. Work was begun August 19, 1909, and completed December 3, 1909. It is a forty (40) foot street with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestones, seven (7) foot brick sidewalks on the south side near Shafter street and the remainder of the sidewalks four and one-half ($4\frac{1}{2}$) foot artificial stone with a loam space. The paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The contract for constructing the artificial stone sidewalks was awarded to Warren Brothers Company May 20, 1909. Work was begun September 10, 1909, and completed October 29, 1909. These sidewalks are laid under a five (5) year maintenance guarantee.

Corona street, from Bowdoin street to Geneva avenue, is

about 1,001 feet in length. The contract for constructing the artificial stone sidewalks was awarded to Jeremiah J. Sullivan September 3, 1908. Work was begun October 28, 1908, and suspended December 19, 1908. Work was resumed April 13, 1909, and completed May 11, 1909. These sidewalks were laid under a ten (10) year maintenance guarantee.

Covington street, from East Eighth street to Columbia road, is about 266 feet in length. The contract for constructing the surface of this street was awarded to Joseph B. O'Rourke & Co. June 5, 1909. Work was begun on October 25, 1909, and suspended December 24, 1909. It is a fifty-four (54) foot street, with a six (6) inch macadam roadway, three (3) granite block gutters, flagging crosswalks, granite edgestones and seven (7) foot brick sidewalks. The paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. This street has been completed with the exception of the macadam roadway. The crushed stone has been placed in the roadway and partially rolled. Work will be resumed early in the spring.

Cottage terrace, from East Cottage street to Marshfield street, is about 642 feet in length. The contract for constructing the surface of this street was awarded to James Doherty June 18, 1909. Work was begun June 23, 1909, and completed July 31, 1909. It is a forty (40) foot street with a six (6) inch macadam roadway, with three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot brick sidewalks. The straight edgestone and granite paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor.

Doris street, from Dorchester avenue to Auckland street, is about 297 feet in length. The contract for constructing the surface of this street was awarded to Joseph B. O'Rourke & Co. July 15, 1909. Work was begun September 2, 1909, and completed October 4, 1909. It is a thirty (30) foot street with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks and five (5) foot artificial stone sidewalks. The granite paving blocks and flagging were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The artificial stone sidewalks were built previous to the present construction.

Dayton street, from Nixon street to the Shawmut branch of the New York, New Haven & Hartford Railroad, is about 229 feet in length. The contract for constructing the surface of this street and the contract for constructing the artificial stone sidewalks were awarded to James Doherty June 18, 1909. Work under the macadam contract was begun June 29, 1909, and completed July 29, 1909; under the sidewalk contract work was begun July 14, 1909, and completed July 27, 1909. It is a forty (40) foot street with a six (6) inch macadam roadway, three (3) granite block gutters, flagging crosswalks, gran-

ite edgestone and seven (7) foot artificial stone sidewalks. The granite paving blocks, flagging and edgestone were furnished by the city and hauled by the contractor. The artificial stone sidewalks, on a part of the street, had been built previous to construction. They were found to be in good condition and were allowed to remain.

Dighton street, extended to Chestnut Hill avenue, is about 305 feet in length. The work of constructing this street is being done by the department force. Work was begun December 14, 1909, and suspended December 24, 1909. It is a fifty (50) foot street and will be built with a six (6) inch macadam roadway, three (3) granite block gutters, flagging crosswalks, granite edgestone and eight (8) foot artificial stone sidewalks. The work done this year consisted of excavating and grading. Work will be resumed early in the spring.

Evergreen street, from South Huntington avenue about 443 feet easterly, is about 456 feet in length. The contract for grading this street was awarded to Mark H. Lynch December 11, 1908. Work was begun December 16, 1908, and completed March 6, 1909. The contract for constructing the surface of this street was awarded to James H. McCarthy September 29, 1909. Work was begun October 11, 1909, and completed December 13, 1909. It is a forty-one (41) foot street, with a six (6) inch macadam roadway, three (3) granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot crushed stone sidewalks. The edgestone and flagging were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor.

Fletcher street, from Centre street to South street, is about 1,510 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to James Doherty September 14, 1909. Work was begun September 17, 1909, and completed November 18, 1909. The contract for constructing the artificial stone sidewalks was also awarded to James Doherty September 17, 1909. Work was begun September 30, 1909, and completed November 16, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks and granite edgestone. The sidewalks, seven (7) feet in width, consist of a seeded loam space two and one-half ($2\frac{1}{2}$) feet wide and artificial stone four and one-half ($4\frac{1}{2}$) feet wide. The crushed stone for the macadam, granite blocks for the gutters and the loam for the loam spaces were furnished by the contractor. The edgestone was furnished by the city, part on the line of the work and part being hauled by the contractor. The flagging was furnished by the city and hauled by the contractor. The old paving blocks, cobbles and crossing blocks were hauled to the Child Street Yard by the contractor. The artificial stone sidewalks were laid under a five (5) year maintenance guarantee. Underdrains were laid connecting

the cinder foundation of the walks with the catch-basins, the object being to prevent the accumulation of water at the low end of the walks and a consequent upheaval which might be occasioned by the action of frost in the ground.

Hyde Park avenue, from about 300 feet north of Ashland street to the Hyde Park line, is about 2,224 feet in length. The contract for constructing the surface of this street was awarded to the West Roxbury Trap Rock Company September 14, 1909. Work was begun September 20, 1909, and suspended December 24, 1909. Work done on this street this year consisted principally of placing filling, but this work has been, to a great extent, necessarily interfered with by the laying of underground pipes.

Marbury terrace, from Amory street to the New York, New Haven & Hartford Railroad, is about 346 feet in length. The contract for constructing the surface of this street was awarded to James Doherty October 18, 1909. Work was begun November 15, 1909, and suspended December 6, 1909. It is a forty (40) foot street and is to have a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and artificial stone sidewalks seven (7) feet in width. The edgestone has been set, the gutters paved and the cinder foundation for the artificial stone sidewalks placed. The edgestone was furnished by the city and hauled by the contractor. The paving blocks for the gutters and the cinders for the sidewalks were furnished by the contractor. Work will be resumed early in the spring.

Melbourne street, from Centre street across Brent street, is 574 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to Thomas Croke & Co. July 23, 1909. Work was begun August 3, 1909, and completed November 17, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot artificial stone sidewalks. The edgestone, flagging and paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The contract for constructing the artificial stone sidewalks was awarded to Jeremiah J. Sullivan July 16, 1909. Work was begun August 17, 1909, and completed September 13, 1909. These sidewalks were laid under a five (5) year maintenance guarantee.

Millet street, from Harvard street to Athelwold street, is about 331 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to James Doherty September 30, 1909. Work was begun October 8, 1909, and completed November 16, 1909. The contract for constructing the artificial stone sidewalks was also awarded to James Doherty September 30, 1909. Work was begun November 2, 1909, and completed

November 11, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) granite block gutters, flagging crosswalks, granite edgestone and artificial stone sidewalks seven (7) feet in width. The paving blocks, flagging and edgestone were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The artificial stone sidewalks were laid under a five (5) year maintenance guarantee.

Montfern avenue, from Washington street to Faneuil street, is about 782 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to Martin F. Gaddis May 7, 1909. Work was begun May 25, 1909, and completed July 31, 1909. It is a forty (40) foot street with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks and granite edgestone. The sidewalks, seven (7) feet in width, have an artificial stone walk four and one-half ($4\frac{1}{2}$) feet wide and a seeded loam space two (2) feet wide. On a part of this street artificial stone sidewalks had been built previous to construction. These were in good condition and were allowed to remain. The granite paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The contract for constructing the artificial stone sidewalks was awarded to the W. A. Murtfeldt Company May 20, 1909. Work was begun June 19, 1909, and completed July 1, 1909. These sidewalks were laid under a five (5) year maintenance guarantee.

Maybrook street, from Glenway street to Greenwood street, is about 394 feet in length. The contract for constructing the surface of this street was awarded to Daniel E. Lynch May 19, 1909. Work was begun August 2, 1909, and completed October 4, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot brick block gutters, brick block crosswalks and seven (7) foot artificial stone sidewalks with a granite edgestone at the corners only. The brick blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The artificial stone sidewalks had been built previous to the present construction.

Mountain avenue, from Lauriat avenue to Ballou avenue, is about 1,201 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to James Doherty June 22, 1909. Work was begun August 3, 1909, and completed October 11, 1909. The contract for the artificial stone sidewalks was also awarded to James Doherty August 5, 1909. Work was begun September 4, 1909, and completed October 13, 1909. It is a fifty (50) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot artificial stone sidewalks. The

edgestone was furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The surplus excavated material was hauled to Almont street by the contractor.

Newcastle road, from Faneuil street to Hobson street, is about 782 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to Martin F. Gaddis May 7, 1909. Work was begun June 7, 1909, and completed August 24, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks and granite edgestone. The sidewalks, seven (7) feet in width, have an artificial stone walk four and one-half ($4\frac{1}{2}$) feet wide and a seeded loam space two (2) feet wide. The granite paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The contract for constructing the artificial stone sidewalks was awarded to Simpson Brothers Corporation May 26, 1909. Work was begun July 16, 1909, and completed July 30, 1909. These sidewalks were laid under a five (5) year maintenance guarantee.

Opera place, from Huntington avenue to St. Stephen street, is about 240 feet in length. The contract for constructing the surface of this street was awarded to James H. McCarthy October 7, 1909. Work was begun October 15, 1909, and completed November 9, 1909. It is a fifty (50) foot street, with a six (6) inch tar macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and eight (8) foot brick sidewalks. The edgestone, flagging and granite blocks were furnished by the city and hauled by the contractor. The sidewalk bricks were furnished by the city on the line of the work. All the other materials were furnished by the contractor.

Prescott street, from Frankfort street and the Boston, Revere Beach & Lynn Railroad, is about 1,218 feet in length. The contract for constructing the surface of this street was awarded to James Doherty November 3, 1909. Work was begun November 22, 1909, and suspended December 24, 1909. The work done this year has consisted of the placing of filling. Work will be resumed early in the spring.

Penhallow street, from Melville avenue to Mather street, is about 316 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to the Frank H. Cowin Company July 15, 1909. Work was begun October 27, 1909, and suspended December 14, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot sidewalks, consisting of a four (4) foot artificial stone walk and a seeded loam space. At the time of suspension the work

on this contract was completed with the exception of the loam spaces. Work will be resumed early in the spring. The paving blocks, flagging and edgestone were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The contract for constructing the artificial stone walk was awarded to James Doherty July 15, 1909. No work has been done under this contract during the past year.

Rexford street, from Blue Hill avenue to Oakland street, is about 1,013 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to James H. Ferguson June 5, 1909. Work was begun June 9, 1909, and suspended November 13, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot sidewalks, consisting of a four and one-half ($4\frac{1}{2}$) foot artificial stone walk and a seeded loam space. The straight edgestone was furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The surplus excavated material was hauled to Almont street by the contractor. The work under this contract, with the exception of the loam spaces, was completed this year, and the street left in good condition for the winter. Work will be resumed in the spring. A contract for constructing the artificial stone sidewalks was awarded to Warren Brothers Company June 9, 1909. The cinder foundation for the artificial stone was placed and the sidewalks made safe for the winter. Work will be resumed in the spring.

Radcliffe street, from Harvard street to Faxon street, is about 1,034 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to Thomas Croke & Co. May 26, 1909. Work was begun July 1, 1909, and completed November 27, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot sidewalks, consisting of a four and one-half ($4\frac{1}{2}$) foot artificial stone walk and a seeded loam space. The paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The contract for constructing the artificial stone sidewalks was awarded to Warren Brothers Company May 20, 1909. Work was begun August 2, 1909, and completed October 16, 1909. These sidewalks were laid under a five (5) year maintenance guarantee.

Stonehurst street, from Topliff street to Hamilton street, is about 752 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to Martin F. Gaddis April 29, 1909. Work was begun May 4, 1909, and completed August 10, 1909.

It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot artificial stone sidewalks. The paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The contract for constructing the artificial stone sidewalks was awarded to Warren Brothers Company May 20, 1909. Work was begun May 26, 1909, and completed June 19, 1909. These sidewalks were laid under a five (5) year maintenance guarantee.

Upham avenue, from Hancock street to Cushing avenue, is about 370 feet in length. The contract for constructing the surface of this street was awarded to William J. Barry April 29, 1909. Work was begun May 14, 1909, and completed June 15, 1909. It is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot brick sidewalks. The paving blocks were furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor.

Walworth street, from Belgrade avenue to South street, is about 568 feet long. The contract for constructing the surface of this street was awarded to Thomas F. Minton August 3, 1909. Work was begun August 26, 1909, and completed November 19, 1909. It is a fifty (50) foot street, except in the vicinity of the bridge over the New York, New Haven & Hartford Railroad, where it narrows to meet the old bridge. It has a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and crushed stone sidewalks eight (8) feet in width. The guard fences at the bridge over the railroad were rebuilt. All the materials were furnished by the contractor.

Wellesley park, from Park street to Melville avenue, is about 834 feet in length. The contract for constructing the surface of this street, with the exception of the artificial stone sidewalks, was awarded to James Doherty July 15, 1909. Work was begun July 20, 1909, and completed September 29, 1909. The contract for the artificial stone sidewalks was also awarded to James Doherty July 15, 1909. Work was begun August 11, 1909, and completed August 28, 1909. From Park street, about 175 feet southerly, it is a forty (40) foot street, with a six (6) inch macadam roadway, three (3) foot granite block gutters, flagging crosswalks, granite edgestone and seven (7) foot artificial stone sidewalks. At this point it divides into two roadways, each twenty-five (25) feet in width constructed with six (6) inch macadam surface, three (3) foot granite block gutters, granite edgestone and artificial stone sidewalks ten (10) feet in width consisting of five (5) feet of artificial stone and a seeded loam space. Continuing thus to a point about 700 feet south of Park street, the two roadways then merge into a

street of the same description as above, which extends to Melville avenue. The park space has an area of over 31,000 square feet. The straight edgestone was furnished by the city and hauled by the contractor. All the other materials were furnished by the contractor. The artificial stone sidewalks were laid under a five (5) year maintenance guarantee.

GENERAL.

Albemarle street, at the Boston & Providence Railroad. The contract for constructing a bulkhead was awarded to George T. Rendle April 14, 1909. Work was begun April 20, 1909, and completed May 6, 1909. This work consisted of the reconstruction of the existing wooden bulkhead at the end of the street, which was badly dilapidated and allowed the street to fall over on to the railroad. All the materials were furnished by the contractor.

Auckland street, from Savin Hill avenue to Bay street, is about 600 feet in length. The contract for setting the edgestones and paving the gutters was awarded to Thomas McMann & Co. May 17, 1909. Work was begun June 1, 1909, and completed July 6, 1909. It is a forty (40) foot macadam street, with three (3) foot granite block gutters, granite edgestone and seven (7) foot crushed stone sidewalks. The sidewalks and roadway had been built for some time and needed only resurfacing. This work was done by the department force. The edgestone and paving blocks were furnished by the city and hauled by the contractor. The contractor furnished all the other materials.

Breed street, East Boston. A fence about 44 feet long was erected on the concrete retaining wall on Breed street by the Fred S. & A. D. Gore Corporation. This is a wooden fence with iron posts. All the materials were furnished by the contractor.

Broadway Bridge, a contract for repairing the old iron fence on the southerly sidewalk at the westerly end of the bridge was awarded to the George T. McLauthlin Company April 5, 1909. The work consisted of removing the badly rusted portions of the fence and replacing the same with new materials, also supplying the parts that were entirely missing, and painting the whole fence with two (2) coats of asphaltum paint. All of the materials were furnished by the contractor.

Clinton street, from Ford's run to Mercantile street. The contract for raising the flagstones on the sidewalk on this street was awarded to John W. and Trace N. Bowers April 16, 1909. The work consisted of raising the sidewalk flag to grade and underpinning them with masonry laid with Portland cement mortar, and grouting the joints with Portland cement grout.

Florence street, at the Mt. Hope Railroad station. The retaining wall, about 354 feet long, was constructed in front of

the railroad station and extended to the existing wall on Blake-more street by Daniel E. Lynch, under contract dated May 26, 1909. Work was begun June 7, 1909, and suspended November 1, 1909. The work was completed by the department force November 17, 1909. This is a rubble mortar wall, with a granite coping eighteen (18) inches wide. The wall was erected for the purpose of constructing Florence street to its full width, thus relieving a congested condition which has been a source of complaint for several years. The contractor furnished the materials for the original contract and the city for the extension. A contract was awarded to P. J. Dinn & Co. December 24, 1909, for erecting and painting a three (3) rail pipe fence on this wall. Work was begun January 25, 1910, and will be completed as soon as the weather conditions will permit. All the materials are to be furnished by the contractor.

Haviland street, from Massachusetts avenue to Hemenway street, is about 479 feet in length. A contract for relaying the artificial stone sidewalks was awarded to James Doherty July 29, 1909. Work was begun August 3, 1909, and completed August 10, 1909. These sidewalks were laid under a five (5) year maintenance guarantee. Such of the existing walk as were found in good condition were allowed to remain. This work was necessitated by a settlement of the street and the consequent cracking of the sidewalk. The roadway was resurfaced with the division force.

Huntington avenue, from Gainsborough street to Longwood avenue, is about 4,200 feet in length. The contract for resetting the edgestone in the track reservation on this street was awarded to Charles W. Dolloff April 21, 1909. Work was begun July 13, 1909, and completed July 31, 1909. The granite block paving at street crossings was reset by the contractor. All the materials were furnished by the contractor. The roadway was resurfaced by the division force and treated with bituminous binder.

Huntington avenue, from Parker street to Ward street, is about 1,980 feet in length. A contract for resetting the edgestone, repaving the gutters and relaying the crosswalks was awarded to John E. Burns September 8, 1909. Work was begun September 8, 1909, and completed November 1, 1909. There was also a small amount of brick sidewalks relaid. The sidewalk bricks were furnished by the city on the line of the work. This work was necessitated by the settlement of the old roadway, the edgestone having settled more than a foot in some places.

Morton street, from Washington street to Blue Hill avenue, is about 9,133 feet in length. The contract for surfacing this street with bituminous macadam, from Forest Hills street to Blue Hill avenue, was awarded to William J. Barry July 6, 1909. The limits of the contract were extended from Forest Hills street to Washington street August 16, 1909. Work was begun July 30, 1909, and completed September 23, 1909. Morton street is probably the most important crosstown thorough-

fare between West Roxbury and Dorchester and carries a large traffic of light vehicles and automobiles. The original macadam surface was considerably worn and in places had been stripped of its binding material by the automobile traffic. The dust resulting from this disintegration was decidedly objectionable in dry weather. To obviate these conditions it was decided to resurface the roadway with bituminous macadam. The work was carried on in the following manner: The surface of the old roadway, where necessary, was reshaped with No. 1 crushed stone and compacted by rolling. On the surface thus prepared was deposited a top course of bituminous macadam of sufficient depth to produce a covering three (3) inches in thickness, after having been thoroughly consolidated by rolling with a twelve ton steam roller. After the materials had been thus compacted and rolled to a uniform surface there was spread upon it a thin coating of sand, enough to fill voids, and again rolled. There was then spread upon the above a wearing surface of coarse screenings or sand three-eighths ($\frac{3}{8}$) of an inch in thickness and again rolled until compacted. The work was prosecuted only during warm and dry weather. The minimum temperature at which work was allowed was 65 degrees Fahrenheit. The bituminous compounds used for this work were heavy asphaltum oils produced by the Gulf Refining Company and the Standard Oil Company. The bituminous compound arrived on the work in tank cars provided with internal steam coils for heating. The oil was heated to a temperature of about 200 degrees Fahrenheit in the tank. It was then introduced with the stone into a rotary power concrete mixer. The stone and the bituminous compound were then mixed until each stone had been entirely coated. This mixture was immediately transported to the street and deposited. The crushed stone used was of No. 2 and No. 3 sizes and mixed in the proportion of about eighteen (18) gallons of bituminous compound to each cubic yard of crushed stone. This proportion of bituminous compound was afterwards slightly reduced as it was found to flush too freely to the surface. No stone was used that was not thoroughly dry. This work was laid with a maintenance guarantee of one (1) year.

Norfolk Street Bridge. A contract for erecting about 85 feet of wooden fence at the Norfolk Street Bridge was awarded to P. J. Dinn & Co. October 30, 1909. The work consisted of erecting a wooden slat fence with iron posts and painting the same with three (3) coats of paint. All of the materials were furnished by the contractor.

Northampton street, from Columbus avenue to Tremont street. The contract for constructing a bulkhead at the estate of A. W. Cole was awarded to George H. Cavanagh February 11, 1909. Work was begun March 5, 1909, and completed March 31, 1909. This work consisted of the construction of a wooden pile bulkhead about 132 feet in length, with a hard pine fence. All the labor and materials were furnished by the contractor.

Nottingham street, from Bowdoin avenue to Bullard street, is about 626 feet in length. The contract for resetting the edgestone on a concrete base and relaying the gutters was awarded to Anthony Diamond May 17, 1909. Work was begun May 24, 1909, and completed June 8, 1909. The crushed stone and gravel were furnished by the contractor, who also did the excavating. The edgestone was set in a two (2) inch bed of Portland cement concrete, overlaying a four (4) inch bed of coarse crushed stone, which serves as an underdrain. A length of four (4) inch drain tile was inserted at catch basins to carry off any water that might collect. This construction is designed to prevent the dislodgement of the edgestones by the freezing of a saturated impervious soil. Such impervious or clay soils occur in widely distributed areas in Dorchester and West Roxbury and often cause serious disturbances of the sidewalk areas and edgestones.

Old Colony avenue (and parts of D and West Ninth streets), from Dorchester avenue to Dorchester street, is about 2,528 feet in length. The contract for constructing the surface of this street was awarded to the Fred S. & A. D. Gore Corporation October 1, 1908. Work was begun October 14, 1908, and completed December 28, 1909. It is an eighty (80) foot street, with a six (6) inch macadam roadway, four (4) foot granite block hip gutters, granite edgestone at street corners, flagging crosswalks and gravel sidewalks twelve (12) feet in width. With the exception of the widening on the westerly side, this was the former roadbed of the Old Colony Railroad. The grading, taking down old retaining walls, building new walls and placing coping on parts of the old walls was completed this season. The building of fences on the coping of the retaining walls and the construction of the macadam surface was also completed this year. The new edgestone, crushed stone for the macadam and the materials for the fences were furnished by the contractor. The new paving blocks and flagging required were furnished by the city and hauled by the contractor. The new sidewalk bricks were furnished by the city on the line of the work. Parts of D street and West Ninth street were raised to meet the new grade of Old Colony avenue and the surface of these streets was replaced as before.

Stony Brook Bridge, at Ashland and Canterbury streets, was extended about 16 feet by Thomas F. Minton, under contract dated June 22, 1909. Work was begun July 8, 1909, and completed August 4, 1909. This work was done for the purpose of widening Canterbury street at its junction with Ashland street. This is a plank and timber bridge with rubble mortar foundation walls. The city furnished a catch-basin and some paving blocks. All the other materials were furnished by the contractor.

St. Stephen street, from Bryant street to Gainsborough street, is about 1,100 feet in length. A contract for resetting the edgestone, repaving the gutters and relaying the brick side-

walks where necessary was awarded to William J. Rafferty & Co. November 10, 1909. Work was begun November 13, 1909, and completed December 2, 1909. The edgestone, paving blocks and sidewalk bricks were furnished by the city on the line of the work. This work was necessitated by a general settlement of the street, the edgestone being raised on an average of 9 inches. The roadway was resurfaced by the division force.

Summer street, south side, between Melcher street and A street, is about 276 feet in length. The contract for relaying the artificial stone sidewalk, resetting the edgestone and repaving the street where necessary was awarded to Warren Brothers Company November 16, 1908. Work was begun November 28, 1908, and suspended December 17, 1908. It was resumed April 8, 1909, and completed April 24, 1909.

Summer street, north side, from Fort Point channel to A street, is about 651 feet in length. The contract for relaying the artificial stone sidewalk, resetting the edgestone and repaving the street where necessary was awarded to James Doherty June 5, 1909. Work was begun June 5, 1909, and completed June 19, 1909. This sidewalk was laid under a five (5) year maintenance guarantee.

Work Done by Contract, 1909.

	Old.	New.
Edgestones set	41,871 linear feet.	37,943 linear feet.
Concrete base laid	6,895.6 square yards.	51,077 square yards.
Granite block paving laid, on a concrete base, with pitch and pebble joints	3,870 "	28,559 "
Granite flagging laid on a concrete base, with pitch and pebble joints	443 "	1,094.4 "
Granite block paving laid on a gravel base, with gravel joints	10,301 "	14,065 "
Granite flagging laid on a gravel base, with gravel joints	494 "	930 "
Wood block pavement laid on a concrete base		5,686 "
Asphalt surface laid	15,369 square yards.	676 "
Asphalt base and surface laid		2,088 "
Asphalt patching	6,317.7 square yards.	
Bituminous binder laid	76.6 cubic yards.	
Brick block pavement laid on a concrete base		17,188 square yards.
Brick sidewalks laid	15,926 square yards.	6,182 "
Crushed stone sidewalks laid	25 "	1,464 "
Artificial stone sidewalks laid	3,030 "	30,518 "
Gravel sidewalks laid		7,619 "
Earth excavation	24,295 cubic yards.	
Earth excavation	56,133 square yards.	
Filling furnished		7,125 cubic yards.
Macadam surface placed (trap rock)	2,324 square yards.	46,802 square yards.
Bituminous macadam surface placed		24,166 "
Tar macadam surface placed		718 "
Brick crosswalks laid on a concrete base		30 "
Brick gutters laid on a gravel base		287 "
Loam furnished and laid		5,621 cubic yards.
Loam furnished and laid		5,329 square yards.
Covers reset	149	
Wooden fence built		816 linear feet.
Iron fence built		351 "
Rubble wall built		1,099 "
Artificial stone curbing laid		166 "
Coal-tar concrete sidewalk laid	23 square yards.	

AMOUNT OF WORK DONE BY PAVING SERVICE FORCES.

Macadam resurfaced	582,267 square yards.
Macadam patched	256,112 square yards.
Tarite furnished and applied	795 square yards.
Tarvia furnished and applied	29,043 square yards.
Asphalt oil furnished and applied	25,668 square yards.
Road oil furnished and applied	3,010 square yards.
Edgestones set	13,316 linear feet.
Edgestones reset	40,603 linear feet.
Edgestones roughed	460 linear feet.
Granite block paving, gravel base and joints, laid	2,524 square yards.
Granite block paving, gravel base and joints, relaid	79,570 square yards.
Granite block paving, gravel base and grout joints laid	2,953 square yards.
Granite block paving, concrete base and grout joints laid	21.4 square yards.
Gutter paving, gravel base and joints, laid	5,380 square yards.
Gutter paving, gravel base and joints, relaid	30,287 square yards.
Flagging crosswalks laid	1,730 square yards.
Flagging crosswalks relaid	22,260 square yards.
Brick sidewalks laid	7,311 square yards.
Brick sidewalks relaid	82,960 square yards.
Gravel and crushed stone sidewalks resurfaced or repaved	205,242 square yards.
Roadways graded	7,017 square yards.
Paved gutters cleaned	250 square yards.
Earth gutters repaired	2,064 square yards.
Earth excavation	1,047 cubic yards.
Rock excavation	191 cubic yards.

FINANCIAL STATEMENT, PAVING SERVICE.

Maintenance appropriation for 1909-10	\$1,150,000 00
Amount transferred from Lamp Division	17,503 06
Amount collected for work done and materials furnished different departments, individuals and companies, including services of inspectors	5,155 36
	\$1,172,658 42
Expenditures from February 1, 1909, to January 31, 1910	
	\$1,172,658 42

STREET IMPROVEMENTS.

Unexpended balance February 1, 1909	\$77,101 03	
Amount collected from Boston Transit Commission for work done and materials furnished	4,867 80	
		\$81,968 83
Expenditures from February 1, 1909, to January 31, 1910		<u>\$81,968 83</u>

OLD COLONY AVENUE, CONSTRUCTION OF.

Unexpended balance February 1, 1909	\$32,422 61	
Expenditures from February 1, 1909, to January 31, 1910	21,479 06	
		<u>\$10,943 55</u>

HYDE PARK AVENUE FROM ASHLAND STREET TO HYDE PARK LINE. CHAPTER 437, ACTS OF 1908.

Expenditures from February 1, 1909, to January 31, 1910	\$2,450 96	
---	------------	--

HIGHWAYS, MAKING OF. CHAPTER 393, ACTS OF 1906.

Expenditures from February 1, 1909, to January 31, 1910	\$123,673 91	
---	--------------	--

TOTAL EXPENDITURES.

Paving Division appropriation	\$1,172,658 42	
Street Improvements	81,968 83	
Old Colony avenue, construction of	21,479 06	
Hyde Park avenue, from Ashland street to Hyde Park line	2,450 96	
Highways, making of	123,673 91	
		<u>\$1,402,231 18</u>

INCOME.

Statement showing the amount of bills deposited with the City Collector from February 1, 1909, to January 31, 1910, and credited to General Revenue:

On account of edgestone and sidewalk assessments	\$5,153 32	
<i>Carried forward</i>	\$5,153 32	

<i>Brought forward</i>	\$5,153 32	
Sale of stone from Chestnut Hill ledge	5,875 70	
Sale of junk	25 40	
		<u><u>\$11,054 42</u></u>

Amount paid into the City Treasury during the year:

On account of edgestone and sidewalk assessments	\$6,436 35	
Sale of stone from Chestnut Hill ledge	4,315 14	
Sale of old material, wharfage, etc.	403 13	
		<u><u>\$11,154 62</u></u>

Objects of Expenditures from the Regular and Street Improvement Appropriations, Classified by Districts, from
February 1, 1909, to January 31, 1910.

Districts.	Macadam Repairs.	Block Repairs.	Snow.	Street Cleaning.	Edgestone and Sidewalk Repairs.	Crosswalk Repairs.	Street Work.	Schedule A, Miscellaneous.	Total.
1. South Boston and Dorchester North,	\$2,191 71	\$1,732 29	\$6,791 10	\$6,325 34	\$8,224 43	\$824 35	\$25,783 17	.....	\$51,872 39
2. East Boston and Breed's Island.....	2,091 07	291 50	4,387 04	820 29	5,773 76	343 31	35,134 87	.....	48,841 84
3. Charlestown.....	2,301 95	2,145 39	4,895 38	1,019 83	5,195 02	403 86	19,907 41	.....	35,868 84
4. Brighton.....	4,152 93	68 75	5,014 73	12,660 73	8,193 89	989 03	50,779 66	.....	81,859 72
5. West Roxbury.....	10,938 44	368 99	8,527 62	19,694 75	10,690 89	477 83	46,175 08	.....	96,873 60
6. Dorchester.....	9,140 74	496 28	3,771 92	6,888 96	4,920 36	686 43	46,290 55	.....	72,195 24
7. Roxbury South and Jamaica Plain..	8,503 11	3,947 04	11,197 63	22,817 98	9,659 59	2,150 51	65,210 46	.....	123,486 32
8. South End and Roxbury North.....	8,989 10	5,172 23	16,039 30	9,888 32	16,882 79	6,792 90	176,445 66	.....	240,210 30
9. Ashmont.....	3,616 20	131 85	3,197 28	5,837 47	2,869 41	476 24	43,831 23	.....	59,959 68
10. North and West Ends and Back Bay,	8,392 13	6,660 32	19,588 48	2,437 55	5,539 38	2,323 33	75,294 11	.....	120,235 30
Totals.....	\$60,317 38	\$21,014 64	\$83,410 48	\$88,391 22	\$77,949 52	\$15,467 79	\$584,852 20	\$323,224 02	* \$1,254,627 25

* Includes \$81,968.83 of Street Improvements Appropriation.

SCHEDULE A.

Salary of deputy superintendent	\$3,500 00
Salaries of office employees	11,342 37
Salary of chief engineer	3,000 00
Salaries of assistant engineers	1,986 43
Salaries of chief engineer's clerks	6,597 10
Salaries of permit office clerks	5,963 40
Salaries of permit office inspectors	13,820 43
Salaries of chief engineer's inspectors	1,794 75
Salaries of district inspectors	8,477 40
Automobile expense, including wages of chauffeur, repairs, supplies, etc.	2,575 90
Insurance, automobile	340 00
Insurance, boiler	126 00
Advertising	164 58
Asphalt analysis, etc.	65 00
Derricks, repairing, etc.	187 54
Dumping boat service	99 75
Electrical appliances, labor and stock	1,075 20
Furniture	103 25
Fuel	1,264 81
Oil	684 98
Ice	69 14
Electric lighting	441 93
Gas lighting	471 59
Newspapers, magazines, etc.	17 00
Oatmeal	152 51
Printing	3,504 73
Postage	537 38
Stationery	1,010 90
Rent of towels	107 80
Stoves, pipes, grates, etc.	137 29
Taxes	1,287 00
Telephone service	1,782 58
Traveling expenses	464 33
Rent of land, etc.	8,888 20
Engineering supplies and incidentals	446 48
Holidays (not including holidays charged on street accounts)	33,910 39
Pay allowed injured employees	756 63
Medical attendance for injured employees	1,520 00
Soap and twine for office	8 85
Signs	8,508 15
Numbering streets	1,763 52
Photographs	52 50
Tools, hardware, etc., new, cost of repairing, etc.,	17,022 83
<i>Carried forward</i>	<i>\$146,030 62</i>

<i>Brought forward</i>	\$146,030	62
Executions of courts and damages	1,961	00
Materials sold and work done for other depart- ments	*1,372	43
Snow dump, Dorchester avenue	133	75
Artificial stone sidewalks, rebates allowed and repairs	12,597	40
Asphalt pavements repaired	11,503	97
Crossings, new	3,176	17
Fence repairs	4,320	88
Plank walk repairs	1,382	86
Fences and plank walks, new	91	40
Edgestone and sidewalks, new	20,221	31
Repairing offices, stables, sheds, etc.	6,484	59
Sanding icy streets and sidewalks	1,540	27
Expenses of yards and stables, including horses and wagons, caring for horses, repairs to carts, harnesses, etc.	\$169,855	89
Less amount earned by department teams	85,163	60
		84,692 29
Work done for Sanitary Division	62	00
Work done for Sewer Division	136	50
Sundries	7	07
Brick tester, including setting up and operating	483	48
Gypsy moths, removal of	114	65
Expert services on annual report	500	00
Boston-1915 exhibit	355	24
Motor cycle, including registration and operation, Grass seed	264	42
Removing night soil	18	35
60 00		
Allston Street Subway, repairing walls	290	00
Norfolk Street Bridge, repairing fence	213	95
Albemarle street at railroad, repairing retaining wall, bulkhead and fence	327	95
Ashland and Canterbury streets, repairing bridge over Stony brook	803	15
Broadway Bridge, repairing fence	161	40
Clinton street, raising granite sidewalks	279	47
Lawn street, repairing steps and fence (in connec- tion with construction of 1908)	125	25
Northampton street, between Tremont street and Columbus avenue, building wooden bulk- head	487	00
Summer street, repairing bulkhead from No. 320 to 300 feet easterly	484	16
Water street, repairing wooden steps at bridge	108	85
<i>Carried forward</i>	\$300,791	83

* \$763.50 of this amount has been paid into city treasury.

<i>Brought forward</i>		\$300,791 83
Stock, materials	\$75,684 45	
Stock, handling and teaming	41,179 62	
	\$116,864 07	
Less stock delivered on streets	88,272 49	
		28,591 58
		\$329,383 41
Amount earned by steam rollers	\$27,465 75	
Steam rollers, cost of operating and repairs	21,306 36	
		6,159 39
		<u>\$323,224 02</u>

STREET WORK, DONE IN PART BY CONTRACT AND DAY LABOR
AND CHARGED TO REGULAR AND STREET IMPROVEMENTS
APPROPRIATIONS.

Albany street, from Broadway to Dover street, and
Broadway extension approach. Paved with
large granite blocks on a 6-inch concrete base
and regulated. Area, 5,288 square yards.

Engineering	\$163 00
Inspection	300 00
Advertising	14 85
Templets	13 25
Bricks, 33,700	411 40
Edgestone, 32 feet 4 inches, circles;	
96 feet 10 inches, straight	104 53
Teaming	4 50
Crushed stone, 427 tons	683 20
Engineering expense	5 75
Amount paid to F. S. & A. D. Gore Corporation under contract:	
5,547 square yards pre- paring site @ 35c.	\$1,941 45
2,179 linear feet existing edgestone reset @ 11c.	239 69
5,288 square yards con- crete base laid @ 55c.	2,908 40
254 square yards exist- ing granite block paving relaid,	

<i>Carried forward</i>		
	\$5,089 54	\$1,700 48

<i>Brought forward</i> .	\$5,089 54	\$1,700 48
gravel joints @		
35c.	88 90	
5,032 square yards gran-		
ite block paving		
furnished and		
laid, pitch joints,		
@ \$2.53	12,730 96	
6 square yards exist-		
ing flagging		
crosswalks relaid,		
gravel joints, @		
35c.	2 10	
234 square yards flag-		
ging crosswalks		
furnished and		
laid, pitch joints,		
@ \$4	936 00	
21 square yards exist-		
ing flagging		
crosswalks relaid,		
pitch joints, @		
85c.	17 85	
1,657 square yards exist-		
ing brick side-		
walks relaid @		
31c.	513 67	
Extra work—Fur-		
nish about 700		
tons of crushed		
stone for the		
concrete base:		
676 tons crushed stone		
furnished @		
\$1.50	1,014 00	
Extra work—Re-		
lay granite block		
paving on con-		
crete base, with		
pitch and peb-		
ble joints, and		
do the necessary		
regulating on		
Broadway ex-		
tension at the		
approach to Al-		
bany street:		
<i>Carried forward</i> .	\$20,393 02	\$1,700 48

<i>Brought forward</i> .	\$20,393 02	\$1,700 48	
550 square yards pre- paring site @ 35c.,	192 50		
227 linear feet existing edgestone reset @ 11c. . . .	24 97		
336 square yards con- crete base laid @ 55c. . . .	184 80		
24 square yards exist- ing granite block paving relaid, gravel joints, @ 35c. . . .	8 40		
503 square yards exist- ing granite block paving relaid, pitch joints, @ 85c. . . .	427 55		
9 square yards exist- ing flagging crosswalks relaid, gravel joints, @ 35c. . . .	3 15		
14 square yards exist- ing flagging crosswalks relaid, pitch joints, @ 85c. . . .	11 90		
212 square yards exist- ing brick side- walks relaid @ 31c. . . .	65 72		
	\$21,312 01		
Less 15 per cent retained . . .	3,196 80		
		18,115 21	
Credit: 119,822 old blocks @ \$20 M. . . .			\$19,815 69
			2,396 44
			<u>\$17,419 25</u>
 <i>Atlantic avenue, at Congress street, granite block paving relaid on existing concrete base and regulated, area, 1,175 square yards.</i>			
Engineering		\$46 37	
<i>Carried forward</i>		\$46 37	

<i>Brought forward</i>	\$46 37
Inspection	102 00
Advertising	3 70
Flagging, 84 feet 7 inches	67 67
Blocks, 500	10 00
Bricks, 100	1 25
Paid F. H. Cowin Company, under contract:	

37.3 cubic yards concrete base furnished and laid
@ \$7 \$261 10

1,079 square yards existing granite block paving relaid, pitch joints, @ \$1, 1,079 00

108 square yards existing flagging crosswalks relaid, pitch joints, @ \$1, 108 00

Extra work—Reset edgestone where directed:

13 linear feet edgestone reset @
15c. 1 95

1,450 05

\$1,681 04

Auckland street, Savin Hill avenue to Bay street,
976 feet edgestone set, 114 feet edgestone reset
and 419 square yards gutter paved.

Engineering	\$56 13
Inspection	87 00
Advertising	14 40
Engineering expense	2 45
Teaming	70 75
Steam roller	36 00
Edgestone, 989 feet 4 inches straight, 1 large corner, 4 small corners	713 93
Blocks, 11,280	225 60
Crushed stone, 24.57 tons	36 70
Labor, excavating and spreading macadam	36 62
Labor, crushed stone sidewalks	33 26

Carried forward \$1,312 84

Brought forward \$1,312 84
 Paid Thomas McMann & Co., under
 contract:

976 linear feet straight
 edgestone hauled
 and set @ 15c. . \$146 40

23 linear feet circular
 edgestone set @
 15c. 3 45

114 linear feet existing
 edgestone reset
 @ 5c. 5 70

346 square yards gran-
 ite block paving
 hauled and laid
 @ 34c. 117 64

73 square yards exist-
 ing granite block
 paving relaid @
 20c. 14 60

Extra work — Re-
 lay brick side-
 walk at Savin
 Hill avenue to
 conform to grade
 of Auckland
 street:

6 square yards brick
 sidewalk relaid
 @ 35c. 2 10

4 hours, stonecutter,
 @ 65c. \$2 60

7 $\frac{1}{2}$ days' labor @ \$2.25, 16 75

289 89

19 35

\$1,622 08

Batterymarch street, from Milk street 215 feet south
 and east. Resurfaced with American rock
 asphalt on granite block base. Area 713
 square yards.

Engineering \$53 12

Inspection 81 00

Engineering expense 1 40

Flagging, 176 feet 9 inches 141 40

Edgestone 4 61

Bricks, 1,300 15 28

Carried forward \$296 81

Brought forward \$296 81
 Paid Jones & Meehan under contract:

67 linear feet existing
 edgestone reset
 @ 25c. . . . \$16 75

688 square yards exist-
 ing granite block
 paving taken up
 and relaid, gravel
 joints, @ 50c. . . 344 00

7 square yards exist-
 ing granite block
 paving taken up
 and relaid, pitch
 joints, @ \$1 . . . 7 00

35 square yards exist-
 ing flagging cross-
 walks taken up
 and relaid, gravel
 joints, @ 60c. . . 21 00

676 square yards as-
 phalt wearing
 surface furnished
 and laid @ \$2 . 1,352 00

29 square yards exist-
 ing brick side-
 walks taken up
 and relaid @ 30c., . . 8 70

Extra work — Re-
 lay granite block
 paving and flag-
 ging crosswalks
 with gravel joints
 at approach to
 Batterymarch
 street and over
 water trench and
 with pitch joints
 at the intersec-
 tion of Milk and
 Batterymarch
 streets and over
 water trench in
 Milk street:

49 square yards flag-
 ging crosswalks,
 relaid with pitch
 joints, @ \$1 . . . 49 00

Carried forward . . \$1,798 45 \$296 81

<i>Brought forward</i>	\$1,798 45	\$296 81	
222 square yards granite block paving relaid, pitch joints, @ \$1.	222 00		
230 square yards granite block paving relaid, gravel joints, @ 50c.	115 00		
		2,135 45	
Credit: 883 old blocks @ \$20 M.			\$2,432 26 17 66
			\$2,414 60

Beacon street, Dartmouth street to Hereford street,
12,184 square yards Trinidad asphalt surface
laid on existing concrete base and regulated.

Engineering	\$449 55
Inspection	182 50
Engineering expense	10 30
Advertising	15 60
Edgestone, 8 feet 2 inches	5 71
Flagging, 311 feet 9 inches	211 98
Blocks, 1,425	28 50
Bricks, 11,220	161 80
Teaming, flagging, etc.	5 96

Amount paid to Barber Asphalt Paving

Company, under contract:

949 linear feet existing edgestone reset @ 20c.	\$189 80
4 square yards exist- ing granite block paving relaid, gravel joints, @ 35c.	1 40
30 square yards exist- ing granite block paving relaid, pitch joints, @ 85c.	25 50
58 square yards flag- ging crosswalks hauled and laid, pitch joints, @ 95c.	55 10

<i>Carried forward</i>	\$271 80	\$1,071 90
----------------------------------	----------	------------

<i>Brought forward</i> . .	\$271 80	\$1,071 90
6,890 square yards bituminous concrete binder and asphalt wearing surface furnished and laid @ \$1.50 . .	10,335 00	
37.7 cubic yards extra bituminous binder furnished and laid @ \$9.95 . .	375 11	
313.9 cubic yards extra cement concrete base furnished and laid @ \$7.35, 2,307 17		
1,449 square yards existing brick sidewalks relaid @ 35c. . . .	507 15	
Extra work— Break out and remove old concrete base where directed:		
284 square yards old concrete base removed @ 50c. .	142 00	
Extra work— Chip old concrete base where directed:		
5 hours, foreman, @ 62½c. . . .	3 13	
70 hours' labor @ 25c.,	17 50	
Plus 15 per cent on \$20.63 . . .	3 09	
Extra work — Resurface with asphalt pavement Beacon street, between Fairfield and Hereford streets:		
1,245 linear feet existing edgestone reset @ 20c. . . .	249 00	
<i>Carried forward</i> .	\$14,210 95	\$1,071 90

<i>Brought forward</i>	\$14,210 95	\$1,071 90
11 square yards exist- ing granite block paving re- laid, gravel joints, @ 35c.	3 85	
51 square yards exist- ing granite block paving re- laid, pitch joints, @ 85c.	43 35	
81 square yards flag- ging crosswalks, hauled and laid, pitch joints, @ 95c.	76 95	
5,294 square yards bitu- minous concrete binder and as- phalt wearing surface furnished and laid @ \$1.50,	7,941 00	
28.6 cubic yards extra bituminous bind- er furnished and laid @ \$9.95	284 57	
187.4 cubic yards extra cement concrete base furnished and laid @ \$7.35,	1,377 39	
1,582 square yards exist- ing brick side- walks relaid @ 35c.	553 70	
Extra work— Break out and remove old con- crete base where directed:		
206 square yards old concrete base re- moved @ 50c.	103 00	
		24,594 76
		<u>\$25,666 66</u>

Bennington street, Wordsworth street to Saratoga street, 460 square yards gutter repaved; 747 square yards brick sidewalks relaid; 129 feet edgestone reset; 340 square yards macadam resurfaced plain; 7,000 square yards resurfaced

and coated with tar and 6,610 square yards
resurfaced and coated with asphalt.

Labor, edgestone excavating and setting,	\$12 24
Labor, gutter excavating and paving	212 96
Labor, spreading macadam	1,767 52
Labor, excavating and relaying side-	
walks	320 69
Teaming	669 18
Steam roller	1,056 26
Crushed stone, 3,677.33 tons	5,084 76
Gravel, 56.75 tons	45 40
Sand, 21 tons, 8½ double loads	50 15
Lumber, 8 feet	21
Cement, ¾ bbl	97
Bricks, 2,960	35 93
Tarvia, 14,710 gallons	1,085 13
Macadam binder, 17,657 gallons	971 14

\$11,312 54

Bowdoin street, from Quincy street, 400 feet southerly,
1,604 square yards paved with wood block on
a 6-inch concrete base and regulated.

Engineering	\$34 75
Inspection	121 00
Advertising	13 80
Engineering expense	3 70
Templets	6 66
Bricks, 4,800	57 60

Paid James Doherty, under contract:

1,604 square yards pre-
paring site @ 25c., \$401 00

445 linear feet existing
edgestone reset
@ 12c. 53 40

1,604 square yards con-
crete base fur-
nished and laid
@ 70c. 1,122 80

8 square yards exist-
ing granite block
paving relaid,
gravel joints, @
45c. 3 60

30 square yards exist-
ing granite block
paving relaid,
pitch joints, @
85c. 25 50

Carried forward . . . \$1,606 30 \$237 51

<i>Brought forward</i>	\$1,606 30	\$237 51
26 square yards flagging crosswalks hauled and laid, pitch joints, @ \$1.11	28 86	
1,547 square yards wood block pavement furnished and laid @ \$2.40	3,712 80	
58 square yards brick sidewalks laid @ 54c.	31 32	
320 square yards existing brick sidewalks relaid @ 31c.	99 20	
Extra work — Furnish and place where directed, cement mortar to fill spaces between the outer web of street car rail and wood blocks:		
2 $\frac{1}{2}$ days' labor @ \$2	5 56	
Plus 15 per cent on \$5.56	83	
15 bags Portland cement @ 40c.	6 00	
56 cubic feet sand @ 4 $\frac{1}{2}$ c.	2 52	
		5,493 39
Credit: 7,550 old blocks @ \$20 M		\$5,730 90
		151 00
		<u>\$5,579 90</u>

Causeway street, Portland street to Canal street, and extended 100 feet towards Haverhill street. Granite blocks laid on an existing concrete base and regulated. Area, 842 square yards.

Engineering	\$78 35
Inspection	126 00
Advertising	15 55
Engineering expense	1 05
<i>Carried forward</i>	\$220 95

<i>Brought forward</i>	\$220 95	
Flagging, 123 feet 2 inches	98 53	
Bricks, 1,700	21 68	

Paid John T. Shea, Jr., under contract:

20 linear feet existing edgestone reset @ 15c.	\$3 00	
--	--------	--

19.3 cubic yards concrete base furnished and laid @ \$6	115 80	
--	--------	--

650 square yards existing granite block paving relaid, pitch joints, @ \$1.30	845 00	
---	--------	--

58 square yards existing flagging crosswalks relaid, pitch joints, @ \$1.30	75 40	
---	-------	--

65 square yards existing brick sidewalks relaid @ 35c.	22 75	
--	-------	--

Extra work — Repave Causeway street, southerly side, from Canal street, about 100 feet towards Haverhill street:

126 square yards granite block paving relaid, pitch joints, @ \$1.30	163 80	
--	--------	--

8 square yards flagging crosswalks relaid, pitch joints, @ \$1.30	10 40	
---	-------	--

Extra work — Trim concrete base where directed:

4 days' labor @ \$2	8 00	
-------------------------------	------	--

<i>Carried forward</i>	\$1,244 15	\$341 16
----------------------------------	------------	----------

<i>Brought forward</i>	\$1,244 15	\$341 16
Plus 15 per cent on		
\$8	1 20	
Extra work — Lay		
flagging cross-		
walk in front of		
North Station:		
½ day, foreman, @		
\$4	2 00	
1 day, paver, @ \$5	5 00	
1½ days, stonecutter,		
@ \$4	6 00	
6 days' labor @ \$2	12 00	
Plus 15 per cent on		
\$25	3 75	
		1,274 10
		<u>\$1,615 26</u>

Charles street, Fruit to Allen streets. 757.3 square yards concrete base furnished and laid; 1,721 square yards asphalt surface laid; 71.9 cubic yards extra concrete base laid; 916 square yards granite block paving relaid and 38 square yards crossings relaid.

Engineering	\$149 37
Inspection	75 00
Engineering expense	5 45
Flagging, 37 feet 9 inches	30 20
Blocks, 2,800	96 00
Teaming	30 15

Paid Barber Asphalt Paving Company,
under contract:

757.3 square yards concrete base furnished and laid
@ \$1 . . . \$757 30

87 square yards existing granite block paving relaid, gravel joints, @ 65c. . . . 56 55

791 square yards existing granite block paving relaid, pitch joints, @ 90c. . . . 711 90

<i>Carried forward</i>	\$1,525 75	\$386 17
------------------------	------------	----------

<i>Brought forward</i>	\$1,525 75	\$386 17
38 square yards existing flagging crosswalks relaid, pitch joints, @ 90c.	34 20	
1,721 square yards bituminous concrete binder and asphalt wearing surface furnished and laid @ \$1.50	2,581 50	
3.54 cubic yards extra bituminous binder furnished and laid @ \$15	53 10	
71.9 cubic yards extra concrete base furnished and laid @ \$6	431 40	
		4,625 95
		<u>\$5,012 12</u>

Derne street, Hancock to Temple streets. Brick block furnished and laid on a 6-inch concrete base, edgestone and sidewalks regulated. Area, 583 square yards.

Engineering	\$32 25
Inspection	30 00
Advertising	3 80
Templets	5 72
Blocks, 60	4 20
Bricks, 4,000	48 00
Paid Warren Brothers repairing bitulithic	16 65
Paid John E. Burns & Co., under contract:	
108 linear feet existing edgestone reset @ 10c.	\$10 80
3 square yards granite block paving laid, grout joints, including excavation and concrete base, @ \$1.55	4 65
<i>Carried forward</i>	\$15 45
	\$140 62

<i>Brought forward</i> . . .	\$15 45	\$140 62
583 square yards brick block pavement furnished and laid, including excavation and concrete base, @ \$2.75 . . .	1,603 25	

106 square yards exist- ing brick side- walks relaid @ 35c. . . .	37 10	
--	-------	--

\$1,655 80

Less 66 square yards concrete base not laid @ 65c. . .	42 90	
--	-------	--

1,612 90

\$1,753 52

Devonshire street, Water street to Milk street: 751
square yards asphalt surface laid, 43.5 cubic
yards extra concrete base laid, 3 square yards
block paving relaid, 4 square yards crossings
relaid, 7 square yards sidewalk relaid and
14 feet edgestone reset.

Engineering	\$30 76
-----------------------	---------

Inspection	25 63
----------------------	-------

Engineering expense	30
-------------------------------	----

Paid Barber Asphalt Company,
under contract:

14 linear feet existing edgestone reset @ 40c.	\$5 60
--	--------

3 square yards exist- ing granite block paving relaid @ 90c.	2 70
---	------

4 square yards flag- ging crosswalks relaid @ 90c. . .	3 60
--	------

751 square yards bitu- minous concrete binder and as- phalt wearing surface fur- nished and laid @ \$1.50 . . .	1,126 50
---	----------

<i>Carried forward</i> . . .	\$1,138 40
------------------------------	------------

\$56 69

<i>Brought forward</i> .	\$1,138 40	\$56 69	
43.5 cubic yards extra concrete base furnished and laid @ \$6. .	261 00		
7 square yards exist- ing brick side- walks relaid @ 30c. . . .	2 10		
		1,401 50	
			<u>\$1,458 19</u>

Downing street, Vernon street to Whittier street.

Paved with Mack brick on a concrete base and regulated. Area, 771 square yards.

Engineering	\$77 95
Inspection	75 10
Advertising	1 25
Engineering expense	70
Templets	5 04
Bricks, 9,500	114 00
Edgestone, 55 feet	65 95

Paid John E. Burns & Co. under contract:

46 linear feet circular edgestone reset @ 12c. . . .	\$5 52
654 linear feet existing edgestone reset @ 8c. . . .	52 32
3 square yards exist- ing granite block paving relaid, gravel joints, @ 35c. . . .	1 05
3 square yards gran- ite block pav- ing laid, grout joints, @ \$1.62, .	4 86
765 square yards brick block pavement furnished and laid @ \$2.60 .	1,989 00
82 square yards exist- ing brick side- walks relaid @ 23c. . . .	18 86

<i>Carried forward</i> .	\$2,071 61	\$339 99
--------------------------	------------	----------

<i>Brought forward</i> . . .	\$2,071 61	\$339 99
Extra work—Lay brick sidewalks where directed: 251 square yards brick sidewalkslaid @ 35c.	87 85	
		2,159 46
		<u>\$2,499 45</u>

East street, South street to Atlantic avenue. Paved with granite blocks on a 6-inch concrete base and regulated. Area, 814 square yards.

Engineering	\$33 25
Inspection	69 00
Engineering expense	1 50
Advertising	13 90
Crushed stone, 154.7 ton.	247 60
Lumber, 138 feet	7 43
Bricks, 3,500	42 00

Paid F. S. & A. D. Gore Corporation,
under contract:

848 square yards pre-
paring site @
35c. \$296 80

390 linear feet existing
edgestone reset
@ 11c. 42 90

848 square yards con-
crete base fur-
nished and laid
@ 55c. 466 40

8 square yards exist-
ing granite
block paving
laid, gravel
joints, @ 35c. 2 80

806 square yards gran-
ite block paving
furnished and
laid, pitch joints,
@ \$2.53 2,039 18

33 square yards flag-
ging crosswalks
furnished and
laid, pitch joints,
@ \$4 132 00

<i>Carried forward</i> . . .	\$2,980 08	\$414 68
------------------------------	------------	----------

<i>Brought forward</i>	\$2,980 08	\$414 68
9 square yards exist- ing flagging crosswalks re- laid @ 85c	7 65	
236 square yards exist- ing brick side- walks relaid @ 31c.	73 16	
Extra work—Reset manhole covers where necessary:		
2 covers reset @ \$3	6 00	
Extra work—Reset edgestone and repair grano- lithic sidewalk where directed:		
4 hours, paver, @ 50c.	\$2 00	
6 hours, tender, @ 25c.	1 50	
	3 50	
Plus 15 per cent on \$3.50	53	
$\frac{1}{2}$ barrel cement @ \$1.65	83	
250 pounds stone @ \$1.50	19	
		3,071 94
		\$3,486 62
Credit: 19,010 old blocks @ \$20 M.		380 20
		<u>\$3,106 42</u>

Esmond street, Blue Hill avenue to Bradshaw street.
Length, 920 feet. Area, 2,960 square yards.
Reset edgestones, repaved gutters and sodded
loam spaces. Work done in 1908.

Final payment to Daniel E. Lynch, as per con- tract, for work done in 1908	<u>\$289 66</u>
---	-----------------

Falmouth street, Norway street to Massachusetts
avenue. Wood blocks laid on a 6-inch con-
crete base and regulated. Area, 2,445 square
yards.

Engineering	\$96 60
Inspection	144 00
Advertising	13 75
Engineering expense	3 75
Bricks, 13,000	156 00

Paid James Doherty under contract:

2,475 square yards pre-
paring site @
15c. . . . \$371 25

266 linear feet straight
edgestone hauled
and set @ 16c. . 42 56

396 linear feet existing
edgestone reset
@ 12c. . . 47 52

2,470 square yards con-
crete base fur-
nished and laid
@ 70c. . . 1,729 00

25 square yards exist-
ing granite block
paving relaid,
gravel joints, @
45c. . . 11 25

16 square yards exist-
ing granite block
paving relaid,
pitch joints, @
90c. . . 14 40

14.4 square yards flag-
ging crosswalks,
pitch joints, fur-
nished and laid
@ \$4.45 . . 64 08

2,445 square yards wood
block pavement
furnished and
laid @ \$2.76 . 6,748 20

225 square yards brick
sidewalks laid @
47c. . . 105 75

303 square yards exist-
ing brick side-
walks relaid @
30c. . . 90 90

Carried forward . . \$9,224 91 \$414 10

Brought forward . . . \$9,224 91 . . . \$414 10

Extra work — Re-
set catch-basin
cover:

Cover reset . . . 3 00

Extra work—Fur-
nish stonecutter:

4 hours, stonecutter,
@ 60c. . . . 2 40

Plus 15 per cent on
\$2.40 36

9,230 67

Credit: 14,236 old blocks @ \$20 M.

\$9,644 77

284 72

\$9,360 05

Florence street, retaining wall built at Mt. Hope
Station. Work finished by department force.

Engineering \$135 25

Inspection 234 25

Advertising 15 00

Engineering expense 4 85

Teaming 84 80

Stone, 35 perch 52 50

Cement, 8 barrels 14 25

Wall coping, 55 feet 9 inches 167 25

Labor on wall coping 52 25

Paid Daniel E. Lynch, under contract:

Building wall . . . \$2,100 00

Less amount retained . . . 383 27

1,716 73

\$2,477 13

Ford's run, Clinton street towards South Market
street. Relaid granite blocks on gravel base,
with pitch joints, portion of whole work done
paid for by abutters.

Engineering \$13 75

Inspection 62 00

Paid J. B. O'Rourke & Co., under con-
tract:

114 square yards pitch
and pebble pav-
ing @ \$1 . . . \$114 00

246 square yards gravel
paving @ 45c. . . 110 70

224 70

\$300 45

Hampshire street, Linden Park street to Ruggles street. Paved with Mack brick on a concrete base and regulated. Area, 4,259 square yards.

Engineering	\$159 51
Inspection	159 10
Advertising	1 20
Engineering expense	90
Templets	7 54
Edgestone, 52 feet 10 $\frac{1}{4}$ -inch circles, 242 feet 10-inch straight	216 40
Bricks, 55,500	666 00
Steam roller	26 00
Engineer on steam roller	10 75

Paid John E. Burns & Co., under contract:

229 linear feet edgestone hauled and set @ 17c.	\$38 93
60 linear feet circular edgestone set @ 12c.	7 20
2,419 linear feet existing edgestone reset @ 8c.	193 52
6 square yards granite block paving relaid, gravel joints, @ 35c.	2 10
33 square yards granite block paving hauled and laid, pitch joints, @ \$1.62	53 46
4 square yards granite block paving laid, with grout joints, @ \$1.62	6 48
4,221 square yards brick block pavement furnished and laid @ \$2.60	10,974 60
81 square yards brick sidewalks laid @ 35c.	28 35
685 square yards existing brick sidewalks relaid @ 23c.	157 55

Carried forward . . . \$11,462 19 \$1,247 40

<i>Brought forward</i> . . .	\$11,462 19	\$1,247 40	
Extra work—Lay brick sidewalks where directed: 1,032 square yards brick sidewalks laid @ 35c. . . .	361 20		
Extra work—Re- move edgestone for driveways and construct same: 4 hours, stonecutter, @ 43 $\frac{3}{4}$ c. . . .	1 75		
1 $\frac{1}{3}$ days' labor @ \$2 .	2 66		
Plus 15 per cent on \$4.41	66		
Extra work—Re- move old drive- ways and make closures on Hampshire street: 1 $\frac{1}{3}$ days, stonecutter, @ \$3.50	4 67		
6 days' labor @ \$2 .	12 00		
Plus 15 per cent on \$16.67	2 50		
		\$11,847 63	
Less 2 days use of city steam roller @ \$13. . . .	26 00		
		11,821 63	
			\$13,069 03
Credit: 15,863 old blocks @ \$20 M.		317 26	
			\$12,751 77

Harrison avenue, Malden street to East Dedham street, 934 inches square yards. Acme asphalt laid on a 6-inch concrete base and regulated.

Engineering	\$91 68
Inspection	72 00
Advertising	26 15
Engineering expense	1 45
Edgestone, 20 feet	14 00
Templets	5 08
Bricks, 1,500	19 13
Blocks, 860	17 20

Carried forward \$246 69

<i>Brought forward</i>	\$246 69
Flagging, 65 feet 9 inches	52 60
Labor: stonecutter	6 00

Paid Warren Brothers Company, under contract:

1,324 square yards pre- paring site @ 25c.	\$331 00
--	----------

20 linear feet straight edgestone hauled and set @ 25c.	5 00
---	------

180 linear feet existing edgestone reset 20c.	36 00
---	-------

391 square yards con- crete base fur- nished and laid @ 80c.	312 80
---	--------

3 square yards exist- ing granite block paving relaid, gravel joints, @ 35c.	1 05
--	------

364 square yards gran- ite block paving hauled and laid, pitch joints, @ 75c.	273 00
---	--------

27 square yards flag- ging crosswalks hauled and laid, pitch joints, @ 90c.	24 30
---	-------

934 square yards con- crete base, bitu- minous concrete binder and as- phalt wearing surface furnished and laid @\$2.20, 2,054 80	
---	--

186 square yards exist- ing brick side- walks relaid @ 25c.	46 50
--	-------

3,084 45

Credit: 23,519 old blocks @ \$20 M.

\$3,389 74
470 38

\$2,919 36

Haviland street, Massachusetts avenue to Hemenway street. Resurfaced with macadam, 7.65 inches deep, area, 1,000 square yards. Artificial stone sidewalks laid by James Doherty; area, 3,642 square feet.

Engineering	\$16 00
Advertising	13 55
Engineering expenses	45
Labor, spreading macadam	195 12
Teaming	66 90
Steam roller	104 00
Gravel, 4½ tons, 9 double loads	18 00
Crushed stone, 284.89 tons	401 66
Paid James Doherty for sidewalks, under contract:	
3,642 square feet artificial stone sidewalks laid @ 13.25c.	482 57

\$1,298 25

Huntington avenue, Gainsborough street to Tremont street. Set 150 feet edgestone, reset 10,892 feet edgestone, laid 208 square yards new brick sidewalks, relaid 68 square yards sidewalks, 3,144 square yards gravel sidewalks filled, 18 inches deep; relaid 1,435 square yards block gutter, relaid 427 square yards crosswalks, relaid 144 square yards block paving, 10,955 square yards macadam resurfaced, 5 inches deep; covered 3,250 square yards macadam with asphalt and 4,125 square yards macadam with tarvia.

Engineering	\$156 75
Inspection	228 75
Engineering expense	6 00
Advertising	31 14
Labor, excavating macadam	482 83
Labor, spreading macadam	2,041 72
Steam roller, picking	78 00
Steam roller, rolling	777 50
Labor, excavating for edgestone	35 88
Labor, resetting edgestone	14 81
Labor, sidewalk excavation	18 13
Labor, relaying brick sidewalks	17 37
Labor, excavating gutter	26 25
Labor, repaving gutter	40 19
Labor, excavating paving	16 75
Labor, repaving	49 62
Labor, excavating crosswalks	13 50

Carried forward \$4,035 19

<i>Brought forward</i>	\$4,035	19
Labor, relaying crosswalks	174	58
Labor on crushed stone and dirt		
sidewalks	295	27
Labor, grading	76	50
Street cleaning	33	38
Teaming	720	52
Watering cart	60	75
Sand, 21 tons	21	00
Gravel, 110½ tons	80	40
Blocks, 6,531	130	62
Bricks, 525	13	12
Crushed stone, 3386.5 tons	4,731	46
Cement, ⅛ barrel		22
Lumber, 112 feet	3	03
Edgestone, 4 large corners	28	00
Flagging, 95 feet 3 inches	64	76
Labor on bulkhead and fences	63	62
Tarvia, 7,962 gallons	591	51
Asphalt, 9,230 gallons genasco cement	1,219	94
Paid C. W. Dolloff & Co., under contract:		
7,254 linear feet existing edgestone reset @ 8c.	\$580	32
48 square yards existing granite block paving relaid @ 55c.	26	40
Extra work — Remove old edgestone from the crossing opposite Ward street:		
1½ days, foreman, @ \$3.50	\$3	94
1 day, stone-cutter, @ \$4	4	00
⅜ day, edgestone setter, @ \$5,	94	
13⅞ days' labor @ \$2	26	87
	35	75
Plus 15 per cent on \$35.75.	5	36
	647	83
<i>Carried forward</i>	\$12,991	70

<i>Brought forward</i>	\$12,991 70	
Paid John E. Burns, under contract:		
3,368 linear feet existing edgestone reset @ 12c.	\$404 16	
1,228 square yards existing granite block paving relaid @ 27c.	331 56	
131 square yards existing flagging crosswalks relaid @ 27c.	35 37	
68 square yards existing brick sidewalks relaid @ 25c.	17 00	
		788 09
		<u>\$13,779 79</u>

Kirkland street, Pleasant street to Corning street.
566 square yards asphalt laid on a 6-inch concrete base and regulated.

Engineering	\$47 55
Inspection	51 00
Advertising	15 40
Engineering expense	1 35
Teaming flagging	2 82
Teaming edgestone	3 54
Flagging, 50 feet 8 inches	34 45
Edgestone, 40 feet 3 inches	25 36
Blocks, 4,750	95 00
Bricks, 7,500	90 00

Paid Warren Brothers Company,
under contract:

1,090 linear feet existing edgestone reset @ 25c.	\$272 50	
7 square yards existing granite block paving relaid, including preparing site, gravel joints, @ 35c.	2 45	

<i>Carried forward</i>	\$274 95	\$366 47
----------------------------------	----------	----------

<i>Brought forward</i> . . .	\$274 95	\$366 47
188 square yards granite block paving hauled and laid, including preparing site and concrete base, pitch joints, @ \$1.60 .	300 80	
10 square yards flagging crosswalks hauled and laid, including preparing site and concrete base, pitch joints, @ \$1.70 .	17 00	
566 square yards concrete base, bituminous concrete binder and asphalt wearing surface furnished and laid, including preparing site, @ \$2.50 . . .	1,415 00	
304 square yards existing brick sidewalks relaid @ 25c. . . .	76 00	
		2,083 75
Credit: 18,350 granite blocks @ \$20 M. . . .		\$2,450 22
		367 00
		<u>\$2,083 22</u>

Linden Park street, Tremont street to Cabot street.

Paved with Mack brick blocks on a concrete base and regulated. Area, 4,191 square yards.

Engineering	\$142 65
Inspection	140 85
Advertising	8 50
Engineering expense	4 90
Edgestone, 125 feet	88 08
Bricks, 61,900	742 80
Templets	6 76
Paving blocks (large), 23,500	1,410 00
Steam roller	100 75

<i>Carried forward</i>	\$2,645 29
----------------------------------	------------

<i>Brought forward</i>		\$2,645 29
Paid John E. Burns & Co., under contract:		
120 linear feet straight edgestone hauled and set @ 17c.	\$20 40	
2,176 linear feet existing edgestone reset @ 8c.	174 08	
840 square yards granite block paving hauled and laid, pitch joints, @ \$1.62	1,360 80	
16 square yards granite block paving laid, grout joints, @ \$1.62	25 92	
21 square yards flagging crosswalks hauled and laid, pitch joints, @ \$2,	42 00	
3,314 square yards brick block pavement furnished and laid @ \$2.60	8,616 40	
644 square yards existing brick sidewalks relaid @ 23c.	148 12	
Extra work — Lay brick sidewalks where directed:		
980 square yards brick sidewalks laid @ 35c.	343 00	
Extra work — Remove edgestone for driveways and construct same:		
4 hours, stonecutter, @ 43 $\frac{3}{4}$ c. . . \$1 75		
1 $\frac{1}{2}$ days' labor @ \$2	2 67	
	4 42	
Plus 15 per cent on \$4.42	66	
<i>Carried forward</i>	\$10,735 80	\$2,645 29

<i>Brought forward</i>	\$10,735 80	\$2,645 29
Extra work — Cut old timbers on bridge for edge- stone and con- crete base:		
10 days' labor @ \$2 .	20 00	
Plus 15 per cent on \$20	3 00	
	\$10,758 80	
Less 7 $\frac{3}{4}$ days' use of city steam roller @ \$13	100 75	
	10,658 05	
		\$13,303 34
Credit: 21,819 granite blocks @ \$20 M.		436 38
		<u>\$12,866 96</u>

Massachusetts avenue, Southampton street to Mid-
land Division railroad bridge. Paved with
special size granite blocks, laid on a 6-inch con-
crete base, with pitch and pebble joints, and
regulated. Area, 14,415 square yards.

Engineering	\$316 76
Inspection	652 50
Advertising	13 75
Engineering expense	10 00
Blocks, 316,671	21,216 97
Templets	11 50
Edgestone, 4,352 feet 6 inches	2,882 46
Bricks, 3,000	37 50
Paid F. S. & A. D. Gore Corpora- tion, under contract:	
12,409 square yards pre- paring site @ 19c.	\$2,357 71
4,435 linear feet straight edgestone hauled and set @ 13c.	576 55
459 linear feet circular edgestone fur- nished and set @ \$1.25	573 75
267 linear feet existing edgestone reset @ 10c.	26 70
<i>Carried forward</i>	\$3,534 71
	\$25,141 44

<i>Brought forward</i> . . .	\$3,534 71	\$25,141 44
12,409 square yards concrete base furnished and laid @ 69c. . . .	8,562 21	
110 square yards existing granite block paving relaid, gravel joints, @ 36c. . . .	39 60	
12,046 square yards granite block paving laid, pitch joints, @ 73c. . . .	8,793 58	
310 square yards flagging crosswalks furnished and laid, pitch joints, @ \$4	1,240 00	
314 square yards existing brick sidewalks relaid @ 29c. . . .	91 06	
Extra work — Relay existing flagging crosswalks with pitch joints:		
66 square yards existing flagging crosswalks relaid, pitch joints, @ 73c. . . .	48 18	
Extra work — Furnish labor to count paving blocks:		
111½ days' labor @ \$2 .	223 33	
Plus 15 per cent on \$223.33	33 50	
Extra work — Reset 2 manhole covers:		
2 covers reset @ \$3, Extra work — Grade approach at Island street:	6 00	
1 day, foreman, @ \$5	\$5 00	

Carried forward, \$5 00 \$22,572 17 \$25,141 44

Brought forward, \$5 00 \$22,572 17 \$25,141 44

11½ days' labor

@ \$2 . . 22 22

27 22

Plus 15 per cent on

\$27.22 . . . 4 08

3 days, double team,

@ \$5 . . . 15 00

Extra work—Bar
out and relay
paving at street
opposite Vose's
factory:

1 hour, foreman, @
62½c. . . \$0 63

1 day's labor

@ \$2 . . 2 00

½ day, paver,

@ \$5 . . 1 66

½ day, rammer,

@ \$2.50 . . 83

5 12

Plus 15 per cent

on \$5.12 . . . 77

\$22,624 36

Less 15 tons crushed
stone furnished

by city @ \$1.50, 22 50

22,601 86

\$47,743 30

Credit: 103,444 old blocks @ \$20 M.

2,068 88

\$45,674 42

*Morton street, River street to Blue Hill avenue,
6,605 square yards macadam resurfaced, 2½
inches deep; 14,878 square yards from Blue
Hill avenue to Oakridge street covered with
asphalt and gravel and 2,311 square yards
crushed stone spread on asphalt; 136 square
yards covered with old macadam.*

Labor, spreading macadam . . . \$959 87

Labor on crushed stone sidewalks . . . 2 24

Labor, spreading sand on asphalt . . . 116 76

Teaming 368 85

Water cart 117 00

Steam roller, picking 22 75

Carried forward \$1,587 47

<i>Brought forward</i>	\$1,587 47
Steam roller, rolling	360 25
Gravel, 206 double loads	338 00
Crushed stone, 1,082.56 tons	1,331 65
Sand, 266 double loads	530 00
Liquid asphalt, 18,425 gallons	1,658 25
	<u>\$5,805 62</u>

Morton street, Blue Hill avenue to Forest Hills street and extended to Washington street; 24,166 square yards bituminous macadam furnished and laid.

Engineering	\$18 88
Inspection	183 00
Advertising	12 90
Engineering expense	3 45
Steam roller	24 00

Paid William J. Barry, under contract:

19,029 square yards bituminous macadam pavement furnished and laid @ 67c. . \$12,749 43

Extra work — Extend work of bituminous macadam on Morton street, from Forest Hills street to Washington street:

5,137 square yards bituminous macadam furnished and laid @ 67c. . 3,441 79

Extra work — Relay granite block paving at stand-pipes:

74 square yards granite block paving relaid @ 40c. . 29 60

\$16,220 82

Less 2 days' use of city steam roller @ \$12 . . . 24 00

16,196 82

\$16,439 05

Mt. Washington Avenue Bridge. Removing blocks over deck and tearing up deck, unfinished work from 1908.

Labor	\$1,582 28
Teaming	666 00

\$2,248 28

North street, Blackstone street to Richmond street.
Relaid 2,770 square yards granite blocks on concrete base, with pitch and pebble joints, reset edgestone and relaid brick sidewalks.

Engineering	\$124 74
Inspection	342 00
Advertising	17 90
Engineering expense	2 30
Labor employed handling old blocks at yard	461 17
Edgestones, 92 feet 6 inches	87 88
Bricks, 11,200	139 10
Templets	6 86
Teaming edgestone	3 24

Paid F. S. & A. D. Gore Corporation,
under contract:

3,095 square yards preparing site @ 31c.	\$959 45
720 linear feet existing edgestone reset @ 10c.	72 00
2,851 square yards concrete base furnished and laid @ 75c.	2,138 25
102 square yards existing granite block paving relaid, gravel joints, @ 30c.	30 60
2,702 square yards granite block paving furnished and laid, pitch joints, @ \$2.53	6,836 06
130 square yards existing granite block paving relaid, pitch joints, @ 85c.	110 50

Carried forward \$10,146 86 \$1,185 19

<i>Brought forward</i>	\$10,146 86	\$1,185 19
114 square yards flag- ging crosswalks furnished a n d laid, pitch joints, @ \$4	456 00	
47 square yards exist- ing fl a g g i n g crosswalks re- laid, pitch joints, @ 85c. . . .	39 95	
403 square yards exist- ing brick side- walks relaid @ 35c. . . .	141 05	
Extra w o r k — Haul old paving blocks to Revere street yard in- stead of to the North End Pav- ing Yard:		
973 tons old paving blocks hauled to Revere street yard, one mile overhaul, per half mile per ton @ 11c. . . .	214 06	
		10,997 92
Credit: 97,312 old granite blocks @ \$20 M. . .		\$12,183 11 1,946 24
		<u>\$10,236 87</u>

Norway street, Falmouth street to St. Paul street.

917 square yards wood blocks laid on a 6-inch
concrete base and regulated.

Engineering	\$23 87
Inspection	45 50
Advertising	13 75
Engineering expense	90
Templets	8 56

Paid United States Wood Preserving
Company, under contract:

920 square yards pre-
paring site @ 35c. \$322 00

<i>Carried forward</i>	\$322 00	\$92 58
------------------------	----------	---------

<i>Brought forward</i> . . .	\$322 00	\$92 58	
239 linear feet existing edgestone reset @ 15c.	35 85		
920 square yards concrete base furnished and laid @ 85c.	782 00		
8 square yards existing granite block paving relaid, pitch joints, @ 85c.	6 80		
917 square yards wood block pavement furnished and laid @ \$2.45	2,246 65		
190 square yards existing brick sidewalks relaid @ 12c.	22 80		
		3,416 10	
Credit: 6,151 old granite blocks @ \$20 M.			\$3,508 68 123 02
			<u>\$3,385 66</u>

Nottingham street, Bowdoin avenue to Bullard street.

Reset 1,233 feet edgestone on concrete, with crushed stone foundation, replaced sods and repaved 417 square yards gutters; 1,633 square yards macadam resurfaced, 3 inches deep, by department force.

Engineering	\$37 37	
Inspection	33 00	
Engineering expense	1 15	
Advertising	13 14	
Labor, spreading macadam	25 88	
Crushed stone, 175 tons	213 26	
Steam roller	39 00	
Paid Anthony Diamond, under contract:		
1,233 linear feet edgestone reset on concrete @ 24c., \$295 92		
417 square yards granite block paving relaid @ 26c.	108 42	
<i>Carried forward</i>	\$404 34	\$362 80

<i>Brought forward</i> . . .	\$404 34	\$362 80	
Extra work — Re- set artificial stone entrance blocks to conform to grade:			
12 hours, paver, @ 50c.,	6 00		
Plus 15 per cent on			
\$6	90		
		411 24	
			\$774 04

Ruggles street, Tremont street to Cabot street.
Paved with Mack brick on a concrete base
and regulated.

Engineering	\$78 77
Inspection	98 15
Advertising	1 25
Engineering expense	50
Templets	9 69
Bricks, 21,000	252 00
Edgestone, 105 feet 11 inches, and 4 small corners	81 13
Steam roller	175 50
Paid John E. Burns & Co., under con- tract:	

68 linear feet straight
edgestone
hauled and set
@ 17c. . . . \$11 56

13 linear square feet
circular edge-
stone set @ 12c., 1 56

796 linear feet existing
edgestone reset
@ 8c. . . . 63 68

5 square yards gran-
ite block paving
hauled and laid,
pitch joints, @
\$1.62 8 10

1 square yard granite
block paving laid,
grout joints, @
\$1.62 1 62

<i>Carried forward</i> . . .	\$86 52	\$696 99
------------------------------	---------	----------

<i>Brought forward</i> . . .	\$86 52	\$696 99
1,880 square yards brick block pavement furnished and laid @ \$2.60 .	4,888 00	
567 square yards exist- ing brick side- walks relaid @ 23c. . . .	130 41	
Extra work—Lay brick sidewalks where directed:		
198 square yards brick sidewalks laid @ 35c. . . .	69 30	
Extra work—Re- pave driveway on Ruggles street:		
4 hours, paver, @ 62½c. .	\$2 50	
4 hours, ram- mer, @ 31¼c. . .	1 25	
1½ days' labor @ \$2 .	3 75	
	7 50	
Plus 15 per cent on \$7.50 . . .	1 13	
	\$5,182 86	
Less 13½ days' use of city steam roller @ \$13 . . .	175 50	
	5,007 36	
		<u>\$5,704 35</u>

*St. Paul street, Norway street to Falmouth street,
777 square yards wood block laid on a 6-inch
concrete base and regulated.*

Engineering	\$56 25
Inspection	65 50
Advertising	13 75
Engineering expense	1 10
Templets	12 82
Bricks, 3,000	36 00
<i>Carried forward</i>	\$185 42

<i>Brought forward</i>	\$185 42		
Paid United States Wood Preserving Company, under contract:			
777 square yards pre- paring site @ 35c.	\$271 95		
78 linear feet existing edgestone reset @ 15c.	11 70		
777 square yards con- crete base fur- nished and laid @ 85c.	660 45		
777 square yards wood block pavement furnished and laid @ \$2.45	1,903 65		
38 square yards brick sidewalks laid @ 30c.	11 40		
7 square yards exist- ing brick side- walks relaid @ 25c.	1 75		
		2,860 90	
Credit: 9,455 old blocks @ \$20 M.			\$3,046 32
			189 10
			<u>\$2,857 22</u>

St. Stephen street, Bryant street to Gainsborough street. 2,707 square yards macadam resurfaced, 5½ inches deep; 1,062 square yards gravel sidewalks filled with old material from Linden Park street, 18 inches deep; 524 square yards block paving relaid, edgestone reset and sidewalks relaid.

Engineering	\$43 23
Inspection	49 50
Advertising	4 10
Engineering expense	95
Labor, spreading macadam	298 64
Labor, grading	259 40
Labor on crushed stone sidewalks	114 00
Teaming	36 90
Steam roller, picking	19 50
Steam roller, rolling	169 00
Labor, cleaning	10 25
Blocks, 750	15 00

<i>Carried forward</i>	\$1,020 47
----------------------------------	------------

<i>Brought forward</i>		\$1,020 47
Flagging, 10 feet 6 inches		7 14
Crushed stone, 558.3 tons		785 22
Paid William J. Rafferty & Co., under contract:		
1,212 linear feet existing edgestone reset @ 24c.	\$290 88	
524 square yards existing granite block paving relaid @ 64c.	335 36	
33 square yards existing brick sidewalks relaid @ 34c.	11 22	
8 catch-basin frames reset @ \$3	24 00	
		661 46
		<u>\$2,474 29</u>

Simmons street, Linden Park street to Vernon street.

Paved with Mack brick on a 6-inch concrete base and regulated. Area, 1,475 square yards.

Engineering	\$47 26
Inspection	50 85
Advertising	1 25
Templets	6 48
Bricks, sidewalk, 19,500	234 00
Steam roller	26 00
Engineering expense	60

Amount paid to J. E. Burns & Co., under contract:

13 linear feet straight edgestone hauled and set @ 17c.	\$2 21
1,235 linear feet existing edgestone reset @ 8c	98 80
1,475 square yards brick block pavement furnished and laid @ \$2.60	3,835 00
248 square yards existing brick sidewalks relaid @ 23c	57 04

<i>Carried forward</i>	\$3,993 05	\$366 44
------------------------	------------	----------

Brought forward . . . \$3,993 05 \$366 44

Extra work— Lay
brick sidewalks
where directed:

359 square yards brick
sidewalk laid @
35c. 125 65

\$4,118 70

Less 2 days' use of
city steam roller

@ \$13 26 00

4,092 70

\$4,459 14

Credit: 140 old blocks @ \$20 M. 2 80

\$4,456 34

South Market street, Commercial street to Atlantic
avenue, repaved with new large granite blocks
on a 6-inch concrete base, with pitch joints,
and regulated. Area, 3,188 square yards.

Engineering \$80 00

Inspection 420 00

Engineering expense 1 15

Templets 10 20

Edgestone, 128 feet 9 inches 83 94

Teaming edgestone 8 45

Gravel, 34.08 tons 27 26

Bricks, 15,000 187 50

Advertising 3 70

Amount paid to J. B. O'Rourke & Co.,
under contract:

3,179 square yards pre-
paring site @
30c. \$953 70

1,108 linear feet exist-
ing edgestone
reset @ 15c. 166 20

3,179 square yards con-
crete base fur-
nished and
laid @ 71c. 2,257 09

42 square yards ex-
isting granite
block paving
relaid, gravel
joints, @ 45c., 18 90

Carried forward . . . \$3,395 89 \$822 20

<i>Brought forward</i> . . .	\$3,395 89	\$822 20
3,109 square yards granite block paving furnished and laid, pitch joints, @ \$2.69 . . .	8,363 21	
73 square yards existing granite block paving relaid, pitch joints, @ \$1 . . .	73 00	
57 square yards flagging crosswalks furnished and laid, pitch joints, @ \$5 . . .	285 00	
21 square yards existing flagging crosswalks relaid, pitch joints, @ \$1 . . .	21 00	
893 square yards brick sidewalks relaid @ 30c. . .	267 90	
	\$12,406 00	
Less 5 per cent retained . . .	620 30	
	11,785 70	
		\$12,607 90
Credit: 122,569 old blocks @ \$20 M. . . .		2,451 38
		<u>\$10,156 52</u>

Summer street, Melcher street to A street. 3,330 square feet of artificial stone sidewalks repaired on south side.

Engineering	\$10 62
Inspection	70 50
Engineering expense	1 60
Edgestone, 12 feet 2 inches	8 51
Amount paid to Warren Brothers Company, under contract:	
3,166 square feet artificial stone sidewalk laid @ 17½c.	\$554 05
<i>Carried forward</i> . . .	\$554 05
	\$91 23

<i>Brought forward</i> . . .	\$554 05	\$91 23
288 linear feet edgestone reset @ 11c. . .	31 68	
320 square yards gran- ite block paving relaid @ 38c. . .	121 60	
	\$707 33	
Less amount paid in 1908 . . .	312 97	
		394 36
		<u>\$485 59</u>

Summer street, Fort Point channel to A street
(north side). 7,349 square feet artificial stone
sidewalks repaired, 651 feet edgestone reset,
914 square yards granite block paving relaid.

Engineering	\$46 99
Inspection	54 00
Engineering expense	1 25
Advertising	13 14

Amount paid to James Doherty, under
contract:

7,349 square feet artifi-
cial stone side-
walk laid @ 12c. \$881 88

651 linear feet existing
edgestone reset
@ 11c. 71 61

510 square yards exist-
ing granite block
paving relaid @
43c. 219 30

Extra work — Re-
lay granite block
paving where di-
rected:

404 square yards exist-
ing granite block
paving relaid @
43c. 173 72

Extra work — Pre-
pare subgrade
for artificial
stone sidewalk
by barring and
ramming:

5½ days' labor
@ \$2 . \$10 67

<i>Carried forward</i> , \$10 67	\$1,346 51	\$115 38
----------------------------------	------------	----------

Brought forward, \$10 67 \$1,346 51 \$115 38

Plus 15 per
cent on

\$10.67 . 1 60

12 27

1,358 78

\$1,474 16

Vernon street, Tremont street to Cabot street. 2,289
square yards paved with Mack brick on a
6-inch concrete base and regulated.

Engineering \$84 99

Inspection 84 35

Engineering expense 1 20

Advertising 1 25

Steam roller 13 00

Bricks, sidewalk, 25,000 300 00

Amount paid to John E. Burns & Co.,
under contract:

1,525 linear feet existing
edgestone reset

@ 8c. \$122 00

154 square yards exist-
ing granite block
paving relaid,
gravel joints, @

35c. 53 90

2,289 square yards brick
block pavement
furnished and

laid @ \$2.60 . 5,951 40

1,055 square yards exist-
ing brick side-
walks relaid @

23c. 242 65

Extra work — Lay
brick sidewalks
where directed:

24 square yards brick
sidewalks laid @

35c. 8 40

\$6,378 35

Less 1 day's use of
city steam roller,

13 00

6,365 35

\$6,850 14

Credit: 29,001 old blocks @ \$20 M.

580 02

\$6,270 12

Walden, Centre and Bickford streets, in front of Plant Shoe Factory. 580 feet edgestone set (paid for by abutters), 882 feet reset, 204 square yards gutters paved, 332 square yards gutters repaired, 584 square yards brick sidewalks laid (furnished by abutters) and 567 square yards brick sidewalks relaid.

Inspection	\$82 75
Advertising	4 10
Blocks, 6,917	149 19
Teaming	30 30
Bricks	57 00
Crushed stone	1 97

Amount paid to John McCourt & Co.,
under contract:

580 linear feet edge-
stone set @ 21c., \$121 80

882 linear feet existing
edgestone reset
@ 16c. . . . 141 12

204 square yards gran-
ite block paving
laid @ 55c. . . 112 20

332 square yards exist-
ing granite block
paving relaid @
40c. . . . 132 80

584 square yards brick
sidewalks laid @
35c. . . . 204 40

567 square yards exist-
ing brick side-
walks relaid @
30c. . . . 170 10

\$882 42

Less 15 per cent
retained . . . 132 36

750 06

\$1,075 37

Washington street, Green street to Arborway. Paved with special size granite blocks on a 6-inch concrete base and regulated. (Work not finished.)

Engineering	\$212 36
Inspection	369 00
Engineering expense	6 50

Carried forward \$587 86

<i>Brought forward</i>	\$587 86
Labor, counting blocks	228 75
Advertising	13 45
Paving blocks, 92,070	6,168 89
Edgestone, 2,386 feet 1 inch	1,503 23

Amount paid to John F. O'Connell,
under contract:

3,416 square yards pre-
paring site @
18c. \$614 88

2,346 linear feet straight
edgestone hauled
and set @ 23c. 539 58

152 linear feet circular
edgestone fur-
nished and set @
\$1.40 212 80

585 linear feet existing
edgestone reset
@ 12c. 70 20

3,416 square yards con-
crete base fur-
nished and laid
@ 68c. 2,322 88

3,337 square yards gran-
ite block paving
laid, pitch joints,
@ 71c. 2,369 27

79 square yards flag-
ging crosswalks
furnished and
laid, pitch joints,
@ \$4.30 339 70

\$6,469 31

Less 5 per cent
retained 323 47

6,145 84

Credit: 8,875 old blocks @ \$20 M.

\$14,648 02

177 50

\$14,470 52

Wheeler street, Shawmut avenue to Corning street.
Asphalt laid on a 6-inch concrete base and
regulated. Area, 655 square yards.

Engineering	\$59 42
Inspection	46 50

Carried forward \$105 92

<i>Brought forward</i>	\$105 92
Engineering expense	1 45
Templets	6 89
Advertising	15 40
Blocks, 250	5 00
Bricks, 4,000	50 00
Carting flagging	9 46
Flagging, 135 feet 2 inches	91 91

Amount paid to Warren Brothers Company, under contract:

770 linear feet existing
edgestone reset
@ 25c. . . . \$192 50

46 square yards existing granite block paving relaid, including preparing site, gravel joints, @ 35c. . 16 10

13 square yards granite block paving hauled and laid, including preparing site and concrete base, pitch joints, @ \$1.60 . 20 80

30 square yards flagging crosswalks hauled and laid including preparing site and concrete base, pitch joints, @ \$1.70 . . . 51 00

588 square yards concrete base, bituminous concrete binder and asphalt wearing surface furnished and laid, including preparing site @ \$2.50 . . . 1,470 00

255 square yards existing brick sidewalks relaid @ 25c. . . . 63 75

1,814 15

\$2,100 18

Whitney street, Tremont street to Conant street,
1,559 feet edgestone reset, 554 square yards
gutters paved, 22 square yards crossings laid
and 1,104 square yards brick sidewalks
relaid.

Engineering	\$5 00
Inspection	60 00
Engineering expense	1 40
Advertising	3 80
Flagging, 53 feet 5 inches	36 32
Blocks, 12,300	246 00
Teaming	73 42
Bricks, 18,720	234 86

Amount paid to John McCourt & Co.,
under contract:

1,559 linear feet existing edgestone reset @ 16c.	\$249 44
554 square yards gran- ite-block paving laid or relaid @ 43c.	238 22
22 square yards flag- ging crosswalks laid or relaid @ 50c.	11 00
1,104 square yards exist- ing brick side- walks relaid @ 30c.	331 20
	\$829 86
Less 15 per cent re- tained	124 48
	705 38

\$1,366 18

Whittier street, Columbus avenue to Cabot street.
2,671 square yards Mack brick laid on a
6-inch concrete base and regulated.

Engineering	\$137 25
Inspection	121 35
Engineering expense	1 60
Advertising	1 25
Bricks, sidewalk, 19,500	234 00
Steam roller	32 50

Carried forward \$527 95

Brought forward \$527 95
 Amount paid to John E. Burns & Co.,
 under contract:

9 linear feet circular edgestone set @ 12c.	\$1 08	
1,525 linear feet existing edgestones reset @ 8c.	126 80	
8 square yards exist- ing granite block paving relaid, gravel joints, @ 35c.	2 80	
3 square yards gran- ite block paving laid, grout joints, @ \$1.62	4 86	
2,661 square yards brick block pavement furnished and laid @ \$2.60 . .	6,918 60	
916 square yards exist- ing brick side- walks relaid @ 23c.	210 68	
Extra work—Ex- cavate oversewer trench on Whit- tier street:		
7 days, fore- man, @ \$4	\$28 00	
96 days' labor @ \$2	192 00	
	\$220 00	
Plus 15 per cent on \$220	33 00	
	253 00	
27 days' double team @ \$6	162 00	
2 days' single team @ \$3.50	7 00	
<i>Carried forward</i> . .	\$7,686 82	
		\$527 95

<i>Brought forward</i> . . .	\$7,686 82	\$527 95
Extra work—Lay brick sidewalks where directed: 216 square yards brick sidewalks laid @ 35c.	75 60	
	\$7,762 42	
Less 2½ days' use of city steam roller @ \$13	32 50	
		7,729 92
Credit: 2,046 old blocks @ \$20 M.		\$8,257 87
		40 92
		<u>\$8,216 95</u>

Woodward Park street, Folsom street to Howard avenue. 888 square yards roadway excavated and resurfaced with macadam, 2.5 inches deep; 581 linear feet edgestone set, 170 square yards brick paving laid, 306 square yards crossings laid, 194 square yards gutter paved and 828 cubic yards rock excavated.

Labor, excavating macadam . . .	\$221 14
Labor, spreading macadam . . .	95 33
Labor, excavating for edgestone . . .	237 82
Labor, setting edgestone	107 43
Labor, excavating for brick sidewalk, . . .	112 01
Labor, paving brick sidewalk	32 00
Labor, excavating gutter	6 19
Labor, paving gutter	152 63
Labor, paving driveway	21 71
Labor, excavating crosswalks	17 38
Labor, laying crosswalks	35 18
Labor, excavating bank	29 50
Labor, excavating rock	779 61
Labor, building steps	23 25
Labor, leveling at dump	1 12
Water cart	11 12
Teaming	561 26
Steam roller	45 50
Edgestone, 369 feet 9 inches straight, 1 large corner	264 83
Blocks, 6,575	131 50
Gravel, 63 double loads	105 35
Bricks, 8,550	102 60
Flagging, 153 feet 7 inches	87 27

<i>Carried forward</i>	\$3,181 73
----------------------------------	------------

<i>Brought forward</i>	\$3,181 73	
Crushed stone, 79.52 tons	120 67	
Lumber, 492 feet	20 20	
		\$3,322 60

Hyde Park Avenue, from Ashland street to Hyde Park line. 6-inch macadam roadway to be constructed and regulated, under chapter 437 of the Acts of 1908. (Work not finished.)

Labor, filling in.	\$38 38
Teaming, filling in	45 00
Engineering	241 95
Inspection	250 50
Advertising	58 70
Engineering expense	2 05
Lumber	32 78

Amount paid to West Roxbury Trap

Rock Company, under contract:

3,200 cubic yards filling furnished @ 65½c.	\$2,096 00
Less 15 per cent retained	314 40
	1,781 60

\$2,450 96

***Old Colony avenue**, construction of, from Dorchester avenue to Dorchester street, and a part of D and West Ninth streets. Surfaced with 6-inch macadam roadway, subgrading and filling, edgestone set, block gutters laid, flagging crosswalks laid, brick sidewalks laid, old wall taken down and new retaining wall built.

Labor, removing blocks and grading lower end	\$601 13
Engineering	911 63
Inspection	843 50
Engineering expense	23 75
Land damages	4,011 33
Flagging, 1,324 feet 4 inches	899 33
Blocks, 98,143	1,962 86
Bricks, 19,000	211 00

Amount paid to F. S. & A. D. Gore

Corporation, under contract:

12,000 cubic yards sub- grading earth excavation @ 33c.	\$3,960 00
--	------------

<i>Carried forward</i>	\$3,960 00	\$9,464 53
----------------------------------	------------	------------

<i>Brought forward</i> .	\$3,960 00	\$9,464 53
1,200 cubic yards filling furnished @ \$1 . . .	1,200 00	
200 linear feet circular edgestone furnished and set @ \$1.30 .	260 00	
900 linear feet existing edgestone taken up and reset @ 15c. .	135 00	
2,000 square yards granite block paving hauled and laid @ 33c. . .	660 00	
1,400 square yards existing granite block paving taken up and relaid @ 33c.,	462 00	
250 square yards flagging crosswalks hauled and laid @ 33c. . .	82 50	
50 square yards existing flagging crosswalks taken up and relaid @ 33c.,	16 50	
14,500 square yards macadam surface furnished and placed @ 65c. . .	9,425 00	
550 square yards existing brick sidewalks taken up and relaid @ 25c.,	137 50	
7 covers reset @ \$3 . . .	21 00	
1,250 cubic yards existing retaining wall taken down @ 75c.,	937 50	
<i>Carried forward</i> .	\$17,297 00	\$9,464 53

<i>Brought forward</i> :	\$17,297 00	\$9,464 53	
825 cubic yards rubble wall built			
@ \$1.50	1,237 50		
40 linear feet fence furnished and built @ 50c.	20 00		
	\$18,554 50		
Less 15 per cent retained	2,783 18		
	\$15,771 32		
Less amount paid in 1908	3,756 79		
		12,014 53	
			<u>\$21,479 06</u>

STREETS CONSTRUCTED UNDER CHAPTER 393 OF THE ACTS OF 1906, AND THE COST CHARGED TO APPROPRIATION FOR HIGHWAYS, MAKING OF.

Aldrich street, from Belgrade avenue to Beech street. Crushed stone sidewalks made. (Street work not started.)

Engineering	\$161 25	
Labor on crushed stone sidewalks	36 00	
Stone	6 17	
Advertising	14 66	
		<u>\$218 08</u>

Alpha road, from Waldeck street to Park street. (Work not started.)

Engineering	\$135 85	
Advertising	9 79	
		<u>\$145 64</u>

Alther street, from Hampden street to Reading street. (Work not started.)

Engineering	\$45 25	
Advertising	9 79	
		<u>\$55 04</u>

Antrim street, from Bennington street to Ashley street. (Work not started.)

Engineering	\$13 00	

Arundel street, from Centre street to Walter street. (Work not started.)

Engineering \$74 35

Avenue Louis Pasteur, from Longwood avenue to the Fenway. (Unfinished.) Length, 1,335 feet. Area, 9,800 square yards. Graded and filled. Loam furnished and placed. Construction of tar 6-inch macadam, edgestones set.

Engineering \$292 62

Inspection 548 50

Labor, spreading filling by city men . 1,632 05

Teaming 6 75

Engineering expense 6 85

Advertising 4 98

Amount paid William J. Barry, under contract:

3,826 double loads filling furnished and delivered @ 50c. 1,913 00

Amount paid to James Doherty, under contract:

4,000 cubic yards sub-grading (earth excavation) @ 41c. \$1,640 00

5,000 cubic yards loam furnished and placed @ \$1.21 . 6,050 00

\$7,690 00

Less 15 per cent retained . . . 1,153 50

6,536 50

\$10,941 25

Balfour street, from Wayland street to Dalkeith street. (Work not started.)

Engineering \$2 00

Beaumont street, from Adams street to Carruth street. To be constructed with 6-inch macadam, edgestone set, 1,163.5 feet, 5 small corners; 219 square yards sidewalks covered with stone dust; 6 $\frac{3}{4}$ cubic yards sidewalks excavated; 391 $\frac{1}{2}$ square yards gutters paved with old blocks and 9 $\frac{1}{2}$ cubic yards roadway excavated to grade; work done and materials furnished by the city.

Engineering \$184 61

Edgestone excavating 544 74

Edgestone setting 298 48

Carried forward \$1,027 83

<i>Brought forward</i>	\$1,027 83	
Sidewalk excavating	43 38	
Sidewalk, spreading stone dust	2 25	
Gutter excavating	135 06	
Gutter paving	136 23	
Roadway excavating	154 50	
Teaming edgestone	180 91	
Teaming blocks and excavation	187 75	
Advertising	7 19	
Edgestone, 2,585 feet 1 inch, and 8 old corners	1,781 43	
Blocks, 11,605	232 10	
Gravel, 34 double loads	51 00	
Lumber, 109 feet	2 94	
Crushed stone, 5.9 tons	6 73	
		<u>\$3,949 30</u>

Belfort street, from Sagamore street to Saxton street. Length, 164 feet. Area, 474 square yards macadam. Area artificial stone sidewalks, 1,483 square feet. Constructed with 6-inch macadam, edgestones set, block gutters and flagging crosswalks laid, and artificial stone sidewalks laid.

Engineering	\$54 48
Inspection	51 50
Flagging	75 59
Engineering expense	2 15
Advertising	104 63

Amount paid Jeremiah J. Sullivan,
under contract:

1,483 square feet artificial stone sidewalks furnished and laid @ .159c.	235 80
--	--------

Amount paid Joseph B. O'Rourke
& Co., under contract:

Removing trees, bushes, etc.	\$0 01
119 cubic yards sub- grading (earth excavation) @ 40c.	47 60
236 linear feet straight edgestone fur- nished and set @ 90c.	212 40
4½ linear feet circular edgestone fur- nished and set @ \$1.40	6 30

<i>Carried forward</i>	\$266 31		\$524 15
----------------------------------	----------	-------	----------

<i>Brought forward</i> . . .	\$266 31	\$524 15
14 linear feet existing edgestone reset @ 20c.	2 80	
125 square yards gran- ite block paving furnished and laid @ \$1.90 . . .	237 50	
4 square yards exist- ing block paving relaid @ 45c. . . .	1 80	
22 square yards flag- ging crosswalks furnished and laid @ \$4.15 . . .	91 30	
364 square yards mac- adam surface furnished and placed @ 68c. . . .	247 52	
	\$847 23	
Less 111 $\frac{1}{2}$ linear feet North river flagging furnished by city @ 68c. . . .	75 59	
		771 64
		<u>\$1,295 79</u>

Bellevue street, from Kane street to Hamilton street. Length, 493 feet. Area, 1,260 square yards. (Work done in 1908.)

Flagging	\$146 74
Rebate on artificial stone sidewalk,	33 42
	<u>\$180 16</u>

Benton street, from Tremont street to Columbus avenue. Length, 320 feet. Area, 818 square yards. Constructed with 6-inch macadam, edgestones set, brick sidewalks laid, block gutters laid.

Engineering	\$58 07
Inspection	63 00
Flagging	12 92
Engineering expense	2 05
Advertising	60 86

Amount paid John McCourt, under contract:

Removing trees, bushes, etc.	\$1 00
---	--------

<i>Carried forward</i>	\$1 00	\$196 90
----------------------------------	--------	----------

<i>Brought forward</i> . . .	\$1 00	\$196 90
183 cubic yards sub- grading earth excavation @ 50c.	91 50	
611 linear feet straight edgestones fur- nished and set @ 90c.	549 90	
20 linear feet circular edgestones fur- nished and set @ \$1.50	30 00	
35 linear feet existing edgestones reset @ 12c.	4 20	
203 square yards gran- ite block paving furnished and laid @ \$1.67 . . .	339 01	
123 square yards exist- ing block paving relaid @ 25c. . .	30 75	
4 square yards flag- ging crosswalks hauled and laid @ 80c.	3 20	
11 square yards exist- ing flagging cross- walks relaid @ 40c.	4 40	
588 square yards mac- adam surface furnished and placed @ 82c. . .	482 16	
379 square yards brick sidewalks fur- nished and laid @ 85c.	322 15	
32 square yards exist- ing brick side- walks relaid @ 24c.	7 68	
2 covers reset @ \$3 .	6 00	
Extra work— Raised manhole cover 6 inches . .	5 00	
<i>Carried forward</i> . .	\$1,876 95	\$196 90

<i>Brought forward</i>	\$1,876 95	\$196 90	
Extra work—			
Hauled paving blocks from the South End paving yard, Albany street, $\frac{1}{2}$ day single team, @ \$3	1 50		
		1,878 45	
			<u>\$2,075 35</u>
<i>Bernard street</i> , from Talbot avenue to the railroad. (Work completed.)			
Engineering expense			<u>\$3 25</u>
<i>Bruce street</i> , extended to Wrentham street. (Work done in 1908.)			
Engineering expense			<u>\$0 20</u>
<i>Buckman street</i> , from Fisher avenue to Lawn street. (Work not started.)			
Engineering		\$83 75	
Advertising		7 20	
			<u>\$90 95</u>
<i>Carmen street</i> , from Shafter street to Kilton street. Length, 648 feet. Area, 1,938 square yards macadam. Artificial stone sidewalks, 5,085 square feet area. Constructed with 6-inch macadam roadway, subgrading, artificial stone sidewalks laid, edgestones set, block paved gutters laid, flagging crosswalks laid, brick sidewalks laid and loam placed.			
Engineering		\$162 55	
Inspection		197 00	
Blocks, 13,850 @ \$20 M.		277 00	
Engineering expense		3 55	
Advertising		112 98	
Steam roller		25 00	
Amount paid John McCourt & Co., under contract:			
671 cubic yards subgrading (earth excavation) @ 50c.		\$335 50	
999 linear feet straight edgestone furnished and set @ 91c.		909 09	
<i>Carried forward</i>	\$1,244 59	\$778 08	

<i>Brought forward</i> .	\$1,244 59	\$778 08
175 linear feet circular edgestone furnished and set @ \$1.43 . . .	250 25	
60 linear feet existing edgestone reset @ 15c. . . .	9 00	
469 square yards granite block paving hauled and laid @ 74c. . . .	347 06	
23 square yards existing granite block paving relaid @ 30c.	6 90	
71 square yards flagging crosswalks furnished and laid @ \$3.80 . .	269 80	
21 square yards existing crosswalks relaid @ 35c . .	7 35	
80 square yards brick sidewalks furnished and laid @ 85c	68 00	
14 square yards existing brick sidewalks relaid @ 25c.	3 50	
• 2 covers reset @ \$3 . .	6 00	
174 square yards loam furnished and placed (not seeded) @ 25c. . .	43 50	
Extra work — Omit the furnishing of trap rock for macadam surface and substitute local stone:		
1,472 square yards macadam surface furnished and placed @ 67c. . .	986 24	
Extra work—Five trees removed @ \$10	50 00	
<i>Carried forward</i> .	\$3,292 19	\$778 08

Brought forward . \$3,292 19 \$778 08

Extra work — Re-
set edgestones
and make clo-
sures where trees
are removed:

9 hours, fore-
man, @ 50c. \$4 50

4½ hours, paver,
@ 62½c. . 2 82

4½ hours, ram-
mer, @
31¼c. . 1 40

36 hours' labor
@ 25c. . 9 00

17 72

Plus 15 per cent
on \$17.72 . . 2 66

35 cubic feet gravel
@ 5c. . . 1 75

Extra work —
Place filling back
of sidewalks
where directed:

14 hours' labor @ 25c., 3 50

Plus 15 per cent
on \$3.50 . . . 52

\$3,318 34

Less one
day's use
of city
steam
roller @
\$12 \$12 00

Less one
day's use
of city
steam
roller @
\$13 . . 13 00

25 00

\$3,293 34

Less 15 per cent re-
tained . . . 494 00

2,799 34

Carried forward \$3,577 42

<i>Brought forward</i>	\$3,577 42	
Amount paid Warren Brothers Company, under contract:		
5,085 square feet artificial stone sidewalks furnished and laid @ .159c.	808 52	
		<u>\$4,385 94</u>
<i>Clarkwood street</i> , from Blue Hill avenue to Norfolk street. (Work not started.)		
Engineering		<u>\$22 00</u>
<i>Colberg avenue</i> , from Belgrade avenue to Beech street. (Work not started.)		
Engineering	\$222 68	
Advertising	14 67	
		<u>\$237 35</u>
<i>Corona street</i> , from Bowdoin street, to Geneva avenue. Length, 1,001 feet. Area, 2,558 square yards. (Work begun in 1908.) Surfaced with 6-inch macadam roadway, subgraded, edgestones set, vitrified brick gutters; crosswalks laid on concrete base, with grout joints, and artificial stone sidewalks laid.		
Engineering	\$8 50	
Inspection	108 00	
Engineering expense	85	
Amount paid Jeremiah J. Sullivan under contract:		
10,456 square feet artificial stone sidewalks furnished and laid @ .149c.	\$1,557 94	
Less amount paid in 1908	874 49	
		<u>683 45</u>
		<u>\$800 80</u>
<i>Cottage street</i> , from Maverick street to Gove street. (Work done in 1908.)		
Engineering		<u>\$2 00</u>
<i>Cottage terrace</i> , from E. Cottage street to Marshfield street. Length, 642 feet. Area, 2,005 square yards. Constructed 6-inch macadam roadway, subgraded, edgestones set, block gutters laid, flagging, crosswalks laid and brick sidewalks laid.		

Engineering	\$149 82
Inspection	105 00
Teaming	13 35
Edgestone, 1,245 feet	871 50
Blocks, 16,450	329 00
Engineering expense	2 70
Advertising	59 28
Amount paid James Doherty, under contract:	

Removing trees, bushes, etc.	\$5 00
639 cubic yards sub-grading (earth excavation) @ 50c.	319 50
1,223 linear feet straight edgestones hauled and set @ 18c.	220 14
83 linear feet circular edgestones furnished and set @ \$1.30	107 90
37 linear feet existing edgestones reset @ 12c.	4 44
477 square yards granite block paving hauled and laid @ 56c.	267 12
36.65 square yards flagging crosswalks furnished and laid @ \$4.10	150 27
1,458 square yards macadam surface furnished and placed @ 75c.	1,093 50
896 square yards brick sidewalks furnished and laid @ \$1	896 00
14 square yards existing brick sidewalks relaid @ 20c.	2 80
2 covers reset @ \$3,	6 00
1 catch-basin frame reset	9 00

 3,081 67

 \$4,612 32

Cotton street, from Walter street to Fairview street. (Work done in 1908.)

Engineering	\$13 00	
Engineering expense	10	
Amount paid Peter F. Connolly under contract:		
Extra work —		
removing tree	25 00	
		<u>\$38 10</u>

Covington street, from East Eighth street to Columbia road. (Work not finished.) Constructed 6-inch macadam roadway, edgestones set, block gutters laid, flagging crosswalks laid and brick sidewalks laid.

Engineering	\$80 35
Inspection	187 00
Labor	88 50
Teaming	37 50
Flagging, 125 feet 9 inches	85 52
Blocks, 8,000	160 00
Engineering expense	2 20
Advertising	41 46

Amount paid Joseph B. O'Rourke & Co., under contract:

Removing trees, bushes, stumps, etc.	\$0 01
160 cubic yards sub- grading (earth excavation) @ 45c.	72 00
18 cubic yards filling furnished @ 75c.	13 50
452 linear feet straight edgestone fur- nished and set @ \$1	452 00
32 linear feet circular edgestone fur- nished and set @ \$1.30	41 60
74 linear feet existing edgestone reset @ 15c.	11 10
191 square yards gran- ite block paving hauled and re- laid @ 64c.	122 24

<i>Carried forward</i>	\$712 45	<u>\$682 53</u>
----------------------------------	----------	-----------------

Brought forward . . . \$712 45 \$682 53

67 square yards exist-
ing granite block
paving relaid @
40c. 26 80

27 square yards flag-
ging crosswalks
furnished and
laid @ \$4.25 . . . 114 75

13 square yards ex-
isting flagging
crosswalks relaid
@ 40c. 5 20

670 square yards mac-
adam surface
furnished and
placed @ 70c. . . 469 00

344 square yards brick
sidewalks fur-
nished and laid
@ \$1 344 00

6 square yards ex-
isting brick side-
walks relaid @
30c. 1 80

1 cover reset . . . 3 00

\$1,677 00

Less 7½ days'
double team
(hauling blocks)
@ \$5 37 50

\$1,639 50

Less 5 per cent
retained . . . 81 98

1,557 52

\$2,240 05

Dakota street, from Greenbrier street to Geneva avenue. (Work done in 1908.)

Engineering \$15 75

Damrell street, from Dorchester avenue to Old Colony avenue (formerly Dorr street). (Work not started.)

Engineering \$6 00

Dayton street, from Nixon street to the railroad. Length, 229 feet. Area, 662 square yards. Constructed 6-inch mac-

adam roadway, edgestone set, block gutters laid, flagging crosswalks laid, sub-grading and filling, and artificial stone sidewalks laid.

Engineering	\$99 75
Inspection	60 00
Edgestone, 323 feet 11 inches, 1 large corner, and 28 feet 3½ inches circles,	266 17
Flagging, 117 feet 10 inches	79 91
Blocks, 7,375	147 50
Engineering expense	1 30
Advertising	109 78
Amount paid James Doherty, under contract:	
2,200 square feet artificial stone sidewalks furnished and laid @ 15½c.	341 00
Amount paid James Doherty, under contract:	
Removing trees, bushes, etc.	\$5 00
95 cubic yards sub-grading (earth excavation) @ 60c.	57 00
321 linear feet straight edgestone hauled and set @ 23c.	73 83
34 linear feet circular edgestone hauled and set @ 25c.	8 50
11 linear feet existing edgestone reset @ 14c.	1 54
175 square yards granite block paving hauled and laid @ 75c.	131 25
25 square yards flagging crosswalks hauled and laid @ 76c.	19 00
606 square yards macadam surface furnished and placed @ 78c.	472 68
4 covers reset @ \$3	12 00
Extra work — 64 cubic yards filling furnished and placed @ \$1	64 00
	844 80
	<u>\$1,950 21</u>

Deaconess road (part of Park street), from Brookline avenue to Bellevue street. (Work not started.)

Engineering expense	\$11 00
-------------------------------	---------

Dighton street, from circle to Chestnut Hill avenue. (Extended.)
(Work not finished.)

Excavating and filling in on extension:

Engineering	\$22 68
Labor	451 00
Teaming	80 75
Advertising	8 57
	\$563 00

Dix place, extended to Tremont street. (Work not started.)

Advertising	\$14 67
-----------------------	---------

Doris street, from Dorchester avenue to Auckland street. Length, 297 feet. Area, 660 square yards. Constructed 6-inch macadam roadway, subgrading, block gutters laid and flagging crosswalks laid.

Engineering	\$71 25
Inspection	52 50
Edgestone, 7 feet 6 inches	5 02
Flagging, 68 feet 4 inches	46 46
Blocks, 8,950	179 00
Engineering expense	55
Advertising	73 33

Amount paid Joseph B. O'Rourke
& Co., under contract:

Removing trees, bushes, etc.	\$0 01
142 cubic yards subgrad- ing (earth excava- tion) @ 60c.	85 20
12 linear feet existing edgestone reset @ 15c.	1 80
2 square yards existing brick sidewalks re- laid @ 30c.	60
6 square yards existing flagging crosswalks relaid @ 65c.	3 90
53 square yards existing granite block pav- ing relaid @ 55c.	29 15
197 square yards granite block paving hauled and laid @ 55c.	108 35

<i>Carried forward</i>	\$229 01	\$428 11
----------------------------------	----------	----------------

<i>Brought forward</i>	\$229 01	\$428 11	
16 square yards flagging crosswalks hauled and laid @ 65c.	10 40		
3 covers reset @ \$3	9 00		
464 square yards mac- adam surface fur- nished and placed @ 75c.	348 00		
		596 41	
			<u>\$1,024 52</u>

Edgar street, from Parker street to Mechanic street. (Work not started.)

Engineering	\$34 93	
Advertising	7 20	
		<u>\$42 13</u>

Evergreen street, from South Huntington avenue about 443 feet easterly. (Work begun in 1908.) Length, 456 feet. Area, 1,400 square yards. Earth and rock excavation. Constructed 6-inch macadam roadway, edgestones set, block gutters laid, flagging crosswalks laid and crushed stone sidewalks laid.

Engineering	\$252 19
Inspection	173 78
Labor, building steps and fence	87 87
Water Department charge	1 89
Edgestone, 44 feet 3 inches circles, 768 feet, and 4 small corners	551 34
Flagging, 146 feet 3 inches	99 45
Lumber, 640 feet	17 27
Engineering expense	6 30
Advertising	17 41

Amount paid Mark H. Lynch, under contract:

500 cubic yards earth excavation @ 60c.	\$300 00	
1,000 cubic yards rock excavation @ 60c.	600 00	
		\$900 00
Less amount paid in 1908	451 35	
		448 65
<i>Carried forward</i>		\$1,656 15

<i>Brought forward</i>		\$1,656 15
Amount paid James H. McCarthy, under contract:		
213 cubic yards sub-grading (earth excavation) @ 60c.	\$127 80	
37 cubic yards sub-grading (rock excavation) @ \$1.75	64 75	
770 linear feet straight edgestone hauled and set @ 20c.	154 00	
80 linear feet circular edgestone set @ 20c.	16 00	
80 linear feet existing edgestone reset @ 15c.	12 00	
300 square yards granite block paving furnished and laid @ \$1.95	585 00	
25 square yards existing granite block paving relaid @ 30c.	7 50	
20 square yards flagging crosswalks hauled and laid @ \$1	20 00	
1,060 square yards macadam surface furnished and laid @ 65c.	689 00	
625 square yards crushed stone sidewalks furnished and laid @ 50c.	312 50	
		\$1,988 55
Less 15 per cent retained	298 28	
		1,690 27
		\$3,346 42

Farquhar street, from South street to Selwyn street.
(Work not started.)

Engineering	\$45 50	
Advertising	4 98	
		\$50 48

Fisher avenue, Hayden street to Parker Hill avenue. Grading sidewalks by city. (Street not constructed.)

Labor.	\$288 00	
Teaming	158 72	
		\$446 72

Fletcher street, from Centre street to South street. Length, 1,510 feet. Area, 4,362 square yards. Constructed 6-inch macadam roadway, subgrading and filling, edgestones set, block gutters laid, flagging crosswalks laid, loam placed and artificial stone sidewalks laid.

Engineering	\$229 21
Inspection	115 00
Edgestone, 109 feet 10-inch circle, 2 small corners, and 2,902 feet 7 inches straight	1,967 64
Flagging, 170 feet 5 inches	115 88
Engineering expense	3 10
Advertising	115 58

Amount paid James Doherty, under contract:

14,354 square feet artificial stone sidewalks furnished and laid @ 13¼c. 1,901 91

Extra work —
Build under-drains for sidewalks as directed:

84 feet 6-inch drain-pipe @ 10c.	\$8 40
1½ barrels Portland cement @ \$1.60,	2 40
6.95 tons crushed stone, 4 days, mason, @ \$5	\$20 00
6 days' labor @ \$2	12 00
	32 00

Plus 15 per cent on \$32 4 80

56 98

Carried forward \$4,505 30

Brought forward \$4,505 30
 Amount paid James Doherty under
 contract

Removing trees,
 bushes, etc. \$5 00

1,667 cubic yards sub-
 grading (earth ex-
 cavation) @ 43c. 716 81

19 cubic yards sub-
 grading (rock ex-
 cavation) @
 \$1.75 33 25

895 cubic yards filling
 furnished @ 65c. 581 75

2,967 linear feet straight
 edgestone hauled
 and set @ 4c. 712 08

115 linear feet circular
 edgestone set @
 12c. 13 80

1,052 square yards gran-
 ite block paving
 furnished and
 laid @ \$1.82 1,914 64

35 square yards flag-
 ging crosswalks
 hauled and laid
 @ 60c. 21 00

1,094 square yards mac-
 adam surface fur-
 nished and placed
 (trap rock) @ 65c. 711 10

11 covers reset @ \$3 33 00

584 square yards loam
 furnished, placed
 and seeded, @
 28c. 163 52

4,905 95

Extra work—Omit
 the furnishing of
 trap rock for mac-
 adam surface
 and substitute
 for the balance
 of the work to be
 done, local stone:

2,333 square yards macadam sur-
 face furnished and placed
 (local stone) @ 61c. 1,423 13

Carried forward \$10,834 38

Brought forward \$10,834 38

Extra work—Re-
pair macadam
roadway, reset
edgestone and re-
lay gutter paving
where directed:

2 $\frac{1}{4}$ days, paver,
@ \$5 . \$11 25
1 $\frac{3}{4}$ days, ram-
mer, @ \$2.25, 3 94
7 $\frac{1}{2}$ days' labor
@ \$2 . 15 00
\$30 19

Plus 15 per cent
on \$30.19 . . 4 53

25 cubic yards filling
furnished @ 65c. 16 25

21 tons crushed stone
furnished @
\$1.35 . . . 28 35

79 32

Extra work— Re-
lay gutter paving
over the trenches
of the Water De-
partment:

$\frac{3}{4}$ day, paver,
@ \$5 . \$3 75
 $\frac{3}{4}$ day, ram-
mer, @
\$2.25 . 1 69
 $\frac{3}{4}$ day's labor
@ \$2 . 1 50
\$6 94

Plus 15 per cent
on \$6.94 . 1 04

7 98

\$10,921 68

Geneva avenue, from Columbia road to Bowdoin street. (Work
not started.)

Engineering \$58 10

Harlem street, from Glenway street to Greenwood street. (Work
done in 1908.)

Engineering \$1 75

Howe street, from Hancock street. (Work not started.)

Engineering \$27 50

Kempton street, from Huntington avenue to Fenwood road.
(Work not started.)

Engineering	<u>\$4 00</u>
-----------------------	---------------

Kingsdale street, extended to a proposed street called Wales street. (Work not started.)

Engineering	\$77 10
Advertising	7 19
	<u>\$84 29</u>

Larkin street, from Adams street to Hampden street. (Work done in 1908.)

Engineering	<u>\$4 00</u>
-----------------------	---------------

Litchfield street, from Lincoln street to Western avenue. (Work not started.)

Engineering	\$115 68
Advertising	8 57
	<u>\$124 25</u>

Mapleton street, from Murdock street to Market street. (Work done in 1908.)

Engineering	<u>\$4 00</u>
-----------------------	---------------

Marbury terrace, northwesterly from Amory street. (Work not finished.) Macadam roadway to construct. Subgrading, edgestone set, block gutters paved and artificial stone sidewalks laid.

Engineering	\$59 75
Inspection	64 50
Edgestone, 662 feet	417 06
Engineering expense	75
Advertising	9 78

Amount paid James Doherty, under contract:

370 cubic yards sub-	
grading (earth	
excavation) @	
50c.	\$185 00

670 linear feet straight	
edgestone hauled	
and set @ 22c.	147 40

250 square yards gran-	
ite block paving	
furnished and	
laid @ \$1.83	457 50

<i>Carried forward</i>	\$789 90	<u>\$551 84</u>
----------------------------------	----------	-----------------

<i>Brought forward</i> . . .	\$789 90	\$551 84
4,300 square feet artificial stone sidewalks furnished and laid @ 3c. (Unfinished) . . .	129 00	
	\$918 90	
Less 15 per cent retained . . .	137 84	
		781 06
		<u>\$1,332 90</u>

Maybrook street, from Glenway street to Greenwood street. Length, 394 feet. Area, 1,138 square yards. Constructed 6-inch macadam roadway, edgestone set, brick block gutters laid on gravel base and brick block crosswalks laid on a concrete base.

Engineering	\$65 48
Inspection	45 50
Teaming	3 85
Steam roller	48 50
Edgestone, 19 feet 1 inch circles and 18 feet 9 inches straight	36 03
Blocks, 250 granite @ \$20 and 13,000 Mack @ \$29.26	385 38
Engineering expense	80
Advertising	60 68
Amount paid Daniel E. Lynch, under contract:	

Removing trees, bushes, etc.	\$10 00
96 cubic yards subgrading (earth excavation) @ 60c.	57 60
1 cubic yard subgrading (rock excavation) @ \$1.75	1 75
18.4 linear feet straight edgestone furnished and set @ \$1	18 40
19.2 linear feet circular edgestone furnished and set @ \$1.50	28 80

<i>Carried forward</i> . . .	\$116 55	\$646 22
------------------------------	----------	----------

<i>Brought forward</i> . . .	\$116 55	\$646 22
4 square yards granite block paving hauled and laid @ 75c.	3 00	
830 square yards macadam surface furnished and placed @ \$1.05 . . .	871 50	
8 covers reset @ \$3 . . .	24 00	
		1,015 05

Extra work—Omit granite block paving and substitute brick block paving:	
287 square yards brick block paving hauled and laid @ 60c.	172 20

Extra work—Omit flagging crosswalks and substitute brick block paving:	
30 square yards brick block paving hauled and laid on a concrete base @ \$1.50 . . .	45 00

Extra work—Trim artificial stone curbing:	
73 hours' labor @ 25c.	18 25
Plus 15 per cent on \$18.25 . . .	2 74

\$238 19

Less 3½ days' use of city steam roller @ \$13, \$45 50

Less 18.4 linear feet straight edgestone furnished by the city @ 70c. . . 12 88

<i>Carried forward</i> , \$58 38	\$238 19	\$1,661 27
----------------------------------	----------	------------

Brought forward, \$58 38 \$238 19 \$1,661 27

Less 19.2

linear feet

circular

edgestone

furnished

by the city

@ \$1.20 . 23 04

81 42

156 77

\$1,818 04

Less amount due on contract, 424 67

\$1,393 37

Mechanic street, from Ruggles street to Edgar street. (Work not started.)

Engineering \$42 00

Advertising 7 19

\$49 19

Meehan street, from Williams street to Keyes street. (Work not started.)

Engineering \$88 75

Advertising 7 19

\$95 94

Melbourne street, from Centre street to the southeasterly line of Brent street extended. Length, 574 feet. Area, 1,658 square yards. Constructed with 6-inch macadam roadway, subgrading, edgestones set, block gutters laid, flagging crosswalks laid and artificial stone sidewalks laid.

Engineering \$122 52

Inspection 162 75

Edgestone, 27 feet 1½ inches circular and 1,064 feet 2 inches straight and

2 small corners 784 66

Blocks, 11,900 238 00

Flagging, 162 feet 3 inches 110 33

Engineering expense 1 10

Advertising 129 14

Amount paid Thomas Croke & Co., under contract:

Removing trees, bushes, etc. . \$1 00

583 cubic yards subgrading (earth excavation) @

40c. 233 20

Carried forward . . \$234 20 \$1,548 50

<i>Brought forward</i> . . .	\$234 20	\$1,548 50
1,061 linear feet straight edgestone hauled and set @ 21c. . .	222 81	
39 linear feet circular edgestone hauled and set @ 21c. . .	8 19	
28 linear feet existing edgestone reset @ 18c. . .	5 04	
395 square yards gran- ite block paving hauled and laid @ 65c. . .	256 75	
35 square yards flag- ging crosswalks hauled and laid @ 90c. . .	31 50	
1,268 square yards mac- adam surface fur- nished and placed @ 66c. . .	836 88	
2 covers reset @ \$3. . .	6 00	

\$1,601 37

Less 15 per cent
retained . . . 240 21

1,361 16

Amount paid Jeremiah J. Sullivan,
under contract:

6,967 square feet artifi- cial stone side- walks laid (in- cluding the work done under the extra work order for laying the sidewalk full width and for laying the side- walk in front of the playground) @ 16c. . .	\$1,114 72	
---	------------	--

Extra work —
Do the neces-
sary stonecut-
ting and point-
ing around the

<i>Carried forward</i> . . .	\$1,114 72	\$2,909 66
------------------------------	------------	------------

Brought forward . . .	\$1,114 72	\$2,909 66	
bay window which projects over the street line at the cor- ner of Mel- bourne and Centre streets.			
Stonecutting and pointing as per agree- ment . . .	10 00		
		1,124 72	
			<u>\$4,034 38</u>

Millet street, from Athelwold street to Harvard street. Length, 331 feet. Area, 956 square yards. Constructed 6-inch macadam roadway, subgrading, edgestones set, block gutters laid, flagging crosswalks laid and artificial stone sidewalks laid. •

Engineering	\$65 44
Inspection	47 25
Edgestone, 620 feet 9 inches . . .	391 07
Blocks, 5,775	115 50
Flagging, 55 feet	37 40
Engineering expense	40
Advertising	8 58

Amount paid James Doherty, under contract:

4,196 square feet artificial stone sidewalks furnished and laid @ .159c	667 16
---	--------

Amount paid James Doherty, under contract:

Removing trees, bushes, stumps, etc.	\$5 00
166 cubic yards sub- grading (earth excavation) @ 60c.	99 60
3 cubic yards sub- grading (rock excavation), @ \$1.75	5 25
621 linear feet straight edgestone hauled and set @ 24c.	149 04

Carried forward	\$258 89	\$1,332 80
---------------------------	----------	------------

<i>Brought forward</i> . . .	\$258 89	\$1,332 80
56 linear feet existing edgestone reset @ 15c.	8 40	
227 square yards gran- ite block paving hauled and laid @ 76c.	172 52	
13 square yards exist- ing granite block paving relaid @ 45c.	5 85	
12 square yards flag- ging crosswalks hauled and laid @ 85c.	10 20	
12 square yards exist- ing flagging crosswalks relaid @ 50c.	6 00	
732 square yards mac- adam surface fur- nished and placed @ 78c. . .	570 96	
5 covers reset @ \$3 .	15 00	
		1,047 82
		<u>\$2,380 62</u>

Montfern avenue, from Washington street to Faneuil street.
Length, 784 feet. Area, 2,290 square yards. Constructed
6-inch macadam roadway, subgrading, edgestones set,
block gutters laid, flagging crosswalks laid, loam placed
and artificial stone sidewalks laid.

Engineering	\$138 69
Inspection	140 00
Blocks, 19,775	395 50
Flagging, 75 feet	51 00
Engineering expense	1 55
Advertising	117 30

Amount paid Martin F. Gaddis, under
contract:

684 cubic yards sub- grading (earth excavation) @ 50c.	\$342 00
---	----------

<i>Carried forward</i> . . .	\$342 00	\$844 04
------------------------------	----------	----------

<i>Brought forward</i> . . .	\$342 00	\$844 04
1½ cubic yards sub- grading (rock ex- cavation) @ \$1.75	2 63	
1,482 linear feet straight edgestone fur- nished and set @ 85c.	1,259 70	
37 linear feet circular edgestone fur- nished and set @ \$1.20	44 40	
12 linear feet existing edgestone reset @ 15c.	1 80	
539 square yards gran- ite block paving hauled and laid @ 80c.	431 20	
26 square yards exist- ing granite block paving relaid @ 30c.	7 80	
28 square yards flag- ging crosswalks furnished and laid @ \$4	112 00	
1,853 square yards mac- adam surface fur- nished and laid @ 65c.	1,204 45	
102 square yards loam furnished, placed and seeded @ 20c.	20 40	
9 covers reset @ \$3	27 00	
	\$3,453 38	
Less 16½ square yards North River flagging furnished by the city	51 00	
		3,402 38
Amount paid W. A. Murtfeldt Com- pany, under contract:		
5,135 square feet artificial stone sidewalks furnished and laid @ .165c		847 28
		<u>\$5,093 70</u>

Mora street, from Washington street to Milton avenue. (Work not started.)

Engineering	\$121 10
Advertising	8 58

\$129 68

Mountain avenue, from Lauriat avenue to Ballou avenue.
Length, 1,201 feet. Area, 3,470 square yards. Constructed 6-inch macadam roadway, subgrading, edgestones set, block gutters laid, flagging crosswalks laid and artificial stone sidewalks laid.

Engineering	\$268 86
Inspection	206 25
Edgestone, 81 feet $10\frac{3}{4}$ inches, circles, 2,270 feet 1 inch straight, and 2 small corners	1,694 54
Engineering expense	3 25
Advertising	105 58

Amount paid James Doherty, under contract:

14,666 square feet artificial stone side- walks furnished and laid @ $12\frac{3}{4}$ c.	1,869 92
---	----------

Amount paid James Doherty, under contract:

Removing trees, bushes, etc.	\$20 00
1,351 cubic yards sub- grading (earth excavation) @ \$1.27	1,715 77
200 cubic yards sub- grading (rock ex- cavation) @ \$1.27	254 00
2,262 linear feet straight edgestones hauled and set @ 21c.	475 02
90 linear feet circular edgestones hauled and set @ 24c.	21 60
66 linear feet existing edgestones reset @ 14c.	9 24

<i>Carried forward</i>	\$2,495 63	\$4,148 40
----------------------------------	------------	------------

<i>Brought forward</i>	\$2,495 63	\$4,148 40
843 square yards granite block paving furnished and laid @ \$1.70	1,433 10	
25 square yards existing granite block paving relaid @ 45c.	11 25	
73 square yards flagging crosswalks furnished and laid @ \$4.20	306 60	
18 square yards existing flagging crosswalks relaid @ 45c.	8 10	
2,660 square yards macadam surface furnished and placed @ 77c.	2,048 20	
3 covers reset @ \$3,	9 00	
		6,311 88
Extra work — Remove edgestone for driveway and haul corners for same:		
14 hours' labor @ 25c.	\$3 50	
Plus 15 per cent on \$3.50	53	
$\frac{1}{2}$ day, single team, @ \$3	1 50	
$\frac{1}{2}$ day, double team, @ \$5	2 50	
		8 03
		<u><u>\$10,468 31</u></u>
<i>Newcastle road</i> , from Faneuil street to Hobson street. Length, 794 feet. Area, 2,302 square yards. Constructed 6-inch macadam roadway, subgrading, edgestones set, block gutters laid, flagging crosswalks laid, loam placed and artificial stone sidewalks laid.		
Engineering	\$129 01	
Inspection	153 50	
Blocks, 22,000	440 00	
Engineering expense	1 70	
Advertising	117 68	
<i>Carried forward</i>	\$841 89	

<i>Brought forward</i>	\$841 89
Amount paid Simpson Brothers Com- pany, under contract:	
7,496 square feet artificial stone side- walks furnished and laid @ .164c.	1,229 34
Amount paid Martin F. Gaddis, under contract:	
710 cubic yards sub- grading (earth excavation) @ 50c.	\$355 00
1,495 linear feet straight edgestone fur- nished and set @ 85c.	1,270 75
59 linear feet circular edgestone fu r- nished and set @ \$1.20	70 80
35 linear feet exist- ing edgestone re- set @ 15c.	5 25
544 square yards gran- ite block paving hauled and laid @ 80c.	435 20
22 square yards flag- ging crosswalks furnished a n d laid @ \$4	88 00
1,869 square yards mac- adam surface furnished a n d placed @ 65c.	1,214 85
279 square yards loam furnished, placed a n d s e e d e d, @ 20c.	55 80
7 covers reset @ \$3,	21 00
	3,516 65
	<u>\$5,587 88</u>

Opera place, from Huntington avenue to St. Stephen street.
Length, 240.5 feet. Area, 960 square yards. Surfaced
with 6-inch tar macadam roadway, subgrading and filling,
edgestones set, block gutters laid, flagging crosswalks laid
and brick sidewalks laid.

Engineering	\$98 37
Inspection	66 25
Edgestone, 324 feet 9 inches straight, 64 feet 3 inches circles	281 69
Blocks, 6,900	138 00
Flagging, 185 feet	125 80
Bricks, 20,280	244 70
Steam roller	58 50
Engineering expense	2 25
Advertising	9 78

Amount paid James H. McCarthy,
under contract:

87 cubic yards sub- grading (earth excavation) @ 50c.	\$43 50
413 cubic yards filling furnished @ 60c.	247 80
436 linear feet straight edgestone hauled and set @ 20c.	87 20
65 linear feet circular edgestone set @ 15c.	9 75
424 linear feet existing edgestone reset @ 15c.	63 60
206 square yards gran- ite block paving hauled and laid @ 50c.	103 00
111 square yards ex- isting granite block paving re- laid @ 30c.	33 30
38 square yards flag- ging crosswalks hauled and laid @ \$1	38 00
718 square yards tar macadam sur- face furnished and placed @ 80c.	574 40
595 square yards brick sidewalks laid @ 30c.	178 50
4 covers reset @ \$3,	12 00

Carried forward . . . \$1,391 05 \$1,025 34

<i>Brought forward</i> . . .	\$1,391 05	\$1,025 34	
Less $4\frac{1}{2}$ days' use of city steam roller @ \$13 . . .	58 50		
		1,332 55	
			<u>\$2,357 89</u>

Penhallow street, from Melville avenue to Mather street.
(Work not finished.) Constructed 6-inch macadam road-
way, subgrading, edgestones set, block gutters laid and
flagging crosswalks laid.

Engineering	\$65 98
Inspection	90 75
Edgestone, 48 feet $8\frac{1}{2}$ inch circles and 552 feet 9 inches straight	406 68
Blocks, 6,975	139 50
Flagging, 165 feet 1 inch	112 25
Engineering expense	75
Advertising	129 13

Amount paid Frank H. Cowin Company,
under contract:

Removing trees, bushes, stumps, etc.	\$0 01
228 cubic yards sub- grading (earth ex- cavation) @ 60c.,	136 80
564 linear feet straight edgestone hauled and set @ 22c.	124 08
49 linear feet circular edgestone hauled and set @ 24c.	11 76
41 linear feet existing edgestone reset @ 15c.	6 15
239 square yards gran- ite block paving hauled and laid @ 65c.	155 35
7 square yards exist- ing block paving relaid @ 65c.	4 55
34 square yards flag- ging crosswalks hauled and laid @ 65c.	22 10
740 square yards mac- adam surface fur-	

<i>Carried forward</i> . . .	\$460 80	\$945 04
------------------------------	----------	----------

<i>Brought forward</i> . . .	\$460 80	\$945 04
nished and placed		
@ 74c. . . .	547 60	
27 square yards mac-		
adam surface		
placed (only		
labor furnished)		
@ 33c. . . .	8 91	
Extra work — Ex-		
cavate a gutter		
on Melville		
avenue, between		
Penhallow street		
and Silloway		
street:		
10 hours' labor @ 25c.	2 50	
Plus 15 per cent on		
\$2.50	38	
2½ hours, double team,		
@ 62½c. . . .	1 56	
	\$1,021 75	
Less 2 tons crushed		
stone furnished		
by the city @		
\$1.23	2 46	
	\$1,019 29	
Less 15 per cent		
retained . . .	152 89	
	866 40	
		<u>\$1,811 44</u>
<i>Plainfield street</i> , from Williams street to Keyes street. (Work not started.)		
Engineering		<u>\$11 35</u>
<i>Prescott street</i> , from Frankfort street to the railroad. (Work not finished.)		
Engineering	\$91 93	
Inspection	66 75	
Engineering expense	91	
Advertising	4 99	
Amount paid James Doherty, under contract:		
1,300 cubic yards filling		
furnished @ 99c.,	\$1,287 00	
Less 15 per		
cent retained . . .	193 05	
	1,093 95	
		<u>\$1,258 53</u>

Public alley 425, from Dartmouth street to Exeter street and between Commonwealth avenue and Marlborough street.
(Work not started.)

Engineering \$8 00

Radcliffe street, from Harvard street to Faxon street. Length, 1,034 feet. Area, 2,987 square yards. Constructed 6-inch macadam roadway, subgrading, edgestones set, block gutters laid, flagging crosswalks laid, loam placed and artificial stone sidewalks laid.

Engineering	\$191 44
Inspection	217 75
Blocks, 22,425	448 50
Flagging, 44 feet 6 inches	30 26
Teaming	1 75
Steam roller	26 00
Artificial stone sidewalk repairs	5 20
Engineering expense	2 55
Advertising	102 47
Labor (rerolling macadam)	10 12

Amount paid Thomas Croke & Co.,
under contract:

889 cubic yards sub- grading (earth excavation) @ 50c.	\$444 50
2,043 linear feet straight edgestone fur- nished and set @ 89c.	1,818 27
30 linear feet circular edgestone fur- nished and set @ \$1.31	39 30
37 linear feet existing edgestone reset @ 15c.	5 55
705 square yards gran- ite block paving hauled and laid @ 65c.	458 25
23 square yards flag- ging crosswalks furnished a n d laid @ \$5	115 00
2,312 square yards mac- adam surface fur- nished a n d placed @ 74c.	1,710 88

<i>Carried forward</i>	\$4,591 75	\$1,036 04
----------------------------------	------------	------------

Brought forward . \$4,591 75 \$1,036 04

331 square yards loam
furnished a n d
placed @ 25c. . 82 75
14 covers reset @
\$3 . . . 42 00

\$4,716 50

Less 15 per cent re-
tained . . . 707 48

4,009 02

Amount paid Warren
Brothers Company, under
contract:

7,672 square feet artificial stone
sidewalks furnished and
laid @ 15 $\frac{3}{4}$ c. . . . 1,208 34

\$6,253 40

Ralston street, from Dorchester avenue to Boston street. (Work
not started.)

Engineering \$10 00

Advertising 9 80

\$19 80

Rexford street, from Blue Hill avenue to Oakland street. (Work
not finished.) Constructed 6-inch macadam roadway, sub-
grading, edgestones set, block gutters laid and flagging
crosswalks laid.

Engineering \$436 39

Inspection 417 90

Edgestone, 4 small corners, 1,729 feet

3 inches straight 1,210 88

Engineering expense 11 00

Advertising 120 55

Amount paid James H. Ferguson, under
contract:

Removing trees,
bushes, etc. . \$50 00

1,268 cubic yards sub-
grading (e a r t h
excavation) @
52c. . . . 659 36

1,179 cubic yards s u b -
grading (r o c k
excavation) @
\$2 2,358 00

1,708 linear feet straight
edgestone hauled
and set @ 21c. . 358 68

Carried forward . \$3,426 04 \$2,196 72

<i>Brought forward</i> . . .	\$3,426 04	\$2,196 72
196 linear feet circular edgestone furnished and set @ \$1.50	294 00	
69 linear feet existing edgestone reset @ 15c.	10 35	
677 square yards granite block paving furnished and laid @ \$2.10 . . .	1,421 70	
49 square yards existing granite block paving relaid @ 50c.	24 50	
8 square yards flag- ging crosswalks furnished and laid @ \$4.50 . . .	36 00	
22 square yards exist- ing crosswalks relaid @ 50c. . . .	11 00	
2,204 square yards mac- adam surface fur- nished and placed @ 82c. . . .	1,807 28	
6 covers reset @ \$3	18 00	
	\$7,048 87	
Less 15 per cent retained	1,057 33	
	5,991 54	
		<u>\$8,188 26</u>

Rosemont street, extended to Train street. (Work not started.)
Engineering \$2 00

South Huntington avenue, from Huntington avenue to another
part of South Huntington avenue. (Work done in 1907.)
Engineering \$3 25

Stonehurst street, from Topliff street to Hamilton street. Length,
752 feet. Area, 2,180 square yards. Constructed 6-inch
macadam roadway, subgrading, edgestones set, block
gutters laid, flagging crosswalks laid and artificial stone
sidewalks laid.

Engineering	\$126 00
Inspection	234 00
Blocks, 11,900	238 00
Engineering expense	3 65
Advertising	118 93

Amount paid Warren Brothers Com-
pany, under contract:

9,217 square feet artificial stone side-
walks laid @ 15.4c. . . . 1,419 42

Amount paid Martin F. Gaddis, under
contract:

289 cubic yards sub-
grading (earth
excavation) @
45c. . . . \$130 05

1,083 linear feet straight
edgestone f u r -
nished and set
@ 85c. . . . 920 55

271 linear feet circular
edgestone f u r -
nished and set @
\$1.20 325 20

225 linear feet existing
edgestone reset
@ 15c. . . . 33 75

458 square yards gran-
ite block paving
hauled and laid
@ 80c. . . . 366 40

86 square yards exist-
ing block paving
relaid @ 25c. . . 21 50

2½ square yards flag-
ging crosswalks
furnished a n d
laid @ \$4.15 . . 10 38

23 square yards exist-
ing crosswalks
relaid @ 40c. . . 9 20

1,622 square yards mac-
adam surface fur-
nished and
placed @ 70c. . 1,135 40

4 covers reset @
\$3 12 00

2,964 43

\$5,104 43

Sudan street, from Dorchester avenue to the easterly side of Sagamore street. (Work not started.)

Engineering	\$65 50	
Advertising	7 20	
		<u>\$72 70</u>

Taft street (including Cameron street and Pleasant terrace), from Dorchester avenue to Pleasant street. (Work not started.)

Engineering	<u>\$16 00</u>
-----------------------	----------------

Upham avenue, from Hancock street to Cushing avenue. Length, 370 feet. Area, 1,067 square yards. Constructed 6-inch macadam roadway, subgrading, edgestones set, block gutters laid, flagging crosswalks laid and brick sidewalks laid.

Engineering	\$103 12
Inspection	91 50
Blocks, 7,400	148 00
Teaming	1 60
Steam roller	42 00
Engineering expense	1 75
Advertising	65 39

Amount paid William J. Barry, under contract:

375 cubic yards sub- grading (each excavation) @ 50c.	\$187 50
2 cubic yards sub- grading (rock ex- cavation) @ \$1.75	3 50
689 linear feet straight edgestone fur- nished and set @ 98c.	675 22
42 linear feet circular edgestone fur- nished and set @ \$1.50	63 00
76 linear feet existing edgestone reset @ 20c.	15 20
275 square yards gran- ite block paving hauled and laid @ 75c.	206 25

<i>Carried forward</i>	<u>\$1,150 67</u>	<u>\$453 36</u>
----------------------------------	-------------------	-----------------

<i>Brought forward</i> . . .	\$1,150 67	\$453 36
25 square yards exist- ing granite block paving relaid @ 50c. . . .	12 50	
25 square yards flag- ging crosswalks furnished and laid @ \$3.50 . .	87 50	
11 square yards exist- ing flagging cross- walks relaid @ 75c.	8 25	
813 square yards mac- adam surface furnished and laid @ 76c. . .	617 88	
426 square yards brick sidewalks fur- nished and laid @ 80c.	340 80	
12 square yards exist- ing brick side- walks relaid @ 30c.	3 60	
5 covers reset @ \$3 .	15 00	
Extra work — Fur- nish stonecut- ters to cut corners for en- trances:		
3 hours, stonecutter, @ 50c.	1 50	
Plus 15 per cent on \$1.50	23	
	\$2,237 93	
Less 3½ days' use of city steam roller @ \$13	45 50	
	2,192 43	
		<u><u>\$2,645 79</u></u>

Walworth street, from Belgrade avenue to South street. Length, 568 feet. Area, 1,451 square yards. Constructed 6-inch macadam roadway, subgrading, edgestone set, block gutters laid, flagging crosswalks laid and crushed stone sidewalks placed. Portion of fence built by department force.

Engineering	\$220 50
Inspection	112 25
Labor	30 75
Teaming	5 50
Lumber	23 30
Engineering expense	2 30
Advertising	65 09

Amount paid Thomas F. Minton, under contract:

Removing trees, bushes, etc.	\$25 00	
1,186 cubic yards subgrading (earth excavation) @ 54c.	640 44	
19 cubic yards subgrading (rock excavation) @ \$1.75	33 25	
210 cubic yards filling furnished @ 50c.,	105 00	
1,018 linear feet straight edgestone furnished and set @ \$1	1,018 00	
103 linear feet circular edgestone furnished and set @ \$1.48	152 44	
86 linear feet existing edgestone reset @ 12c.	10 32	
422 square yards granite block paving furnished and laid @ \$1.70	717 40	
42 square yards existing granite block paving relaid @ 40c.	16 80	
50 square yards flagging crosswalks furnished and laid @ \$4.50	225 00	
56 square yards existing flagging crosswalks relaid @ 45c.	25 20	
<i>Carried forward</i>	<u>\$2,968 85</u>	<u>\$459 69</u>

<i>Brought forward</i> .	\$2,968 85	\$459 69
1,939 square yards macadam surface furnished and placed @ 59c. .	1,144 01	
840 square yards crushed stone sidewalks furnished and placed @ 50c. .	420 00	
108 linear feet wooden fence rebuilt @ 25c. . . .	27 00	
		4,559 86
Extra work — Reset five (5) manhole covers over six (6) inches:		
2½ days, mason, @ \$5.60 .	\$14 00	
2½ days, tender, @ \$2 .	5 00	
		\$19 00
Plus 15 per cent on \$19 . . .	2 85	
700 bricks @ \$12 M. .	8 40	
1¼ barrels Portland cement @ \$1.85, .	2 78	
		33 03
Extra work — Repair roadway and repave gutters over gas trench:		
2 days' labor @ \$2 .	\$4 00	
½ day, paver, @ \$5 .	2 50	
½ day, rammer, @ \$2.50 .	1 25	
½ day, tender, @ \$2 . .	1 00	
		\$8 75
<i>Carried forward</i> . .	\$8 75	\$5,052 58

<i>Brought forward</i> . . .	\$8 75	\$5,052 58
Plus 15 per cent on \$8.75 . . .	1 31	
37 cubic yards filling furnished @ 50c.,	18 50	
3 hours, steam roller, @ \$1.87 . . .	5 61	
		34 17

Extra work — Re-
pair roadway
over sewer
trench:

1 day's labor . . .	\$2 00
Plus 15 per cent on \$2 . . .	30
7 cubic yards filling furnished @ 50c.,	3 50

5 80

\$5,092 55

Wellesley park, from Park street to Melville avenue. Length, 834 feet. Area, 3,798 square yards. Constructed 6-inch macadam roadway, subgrading, edgestone set, block gutters laid, flagging crosswalks laid, loam placed and artificial stone sidewalks laid.

Engineering	\$295 75
Inspection	136 50
Teaming	3 85
Edgestone, 2,064 feet	1,444 80
Engineering expense	4 95
Advertising	118 95

Amount paid James Doherty, under contract:

Removing trees, bushes, etc.	\$5 00
1,669 cubic yards sub- grading (earth excavation) @ 55c.	917 95
2 cubic yards sub- grading (rock excavation) @ \$1.75	3 50
2,076 linear feet straight edgestone hauled and set @ 20c.	415 20

<i>Carried forward</i> . . .	\$1,341 65	\$2,004 80
------------------------------	------------	------------

<i>Brought forward</i>	\$1,341 65	\$2,004 80
515 linear feet circular edgestone furnished and set @ \$1.40	721 00	
105 linear feet existing edgestone reset @ 15c.	15 75	
890 square yards granite block paving furnished and laid @ \$1.71	1,521 90	
12 square yards existing granite block paving relaid @ 45c.	5 40	
26 square yards flagging crosswalks furnished and laid @ \$4.05	105 30	
2,931 square yards macadam surface furnished and placed @ 72c	2,110 32	
3,859 square yards loam placed and seeded @ 5c.	192 95	
621 cubic yards loam furnished @ 90c.,	558 90	
9 covers reset @ \$3,	27 00	
		6,600 17
Amount paid James Doherty, under contract:		
9,615 square feet artificial stone sidewalks laid @ 13 $\frac{3}{4}$ c.	1,322 06	
Extra work — Remove trees where directed:		
17 days' labor @ \$2	\$34 00	
Plus 15 per cent on \$34	5 10	
1 day, double team	5 50	
		44 60
		<u>\$9,971 63</u>
<i>Wentworth street</i> , from Norfolk street to Dunbar avenue. (Work not started.)		
Engineering	\$80 35	
Advertising	9 79	
		<u>\$90 14</u>

Whitman street, from Norfolk street to Dunbar avenue. (Work not started.)

Engineering	:	:	:	:	:	\$107 60
Advertising	:	:	:	:	:	9 79

\$117 39

RECAPITULATION OF STREET WORK.

	Charged to Paying Division.	Appropriation for Street Improvements.
<i>A street</i> , Congress to Binford street		\$2 25
<i>Abbotsford street</i> , Harold street to Walnut avenue	\$433 77	
<i>Adams street</i> , Parkman to Ashmont street	6,103 01	
<i>Albany street</i> , Broadway to Dover street	17,419 25	
<i>Algonquin street</i> , Washington to Harvard street	988 27	
<i>Allston street</i> , Brighton avenue to Commonwealth avenue		34 30
<i>Almont street</i> , Blue Hill avenue to Walk Hill street	1,075 05	
<i>Ashmont street</i> , Dorchester avenue to Adams street	1,530 80	
<i>Atlantic avenue</i> , Kneeland to Beach street, east side	888 82	
<i>Atlantic avenue</i> , at Congress street	1,681 04	
<i>Auckland street</i> , Savin Hill avenue to Bay street	1,622 08	
<i>Bartlett street</i> , Washington street to Eliot square	821 58	
<i>Batterymarch street</i> , Milk street to 275 feet south and east		2,414 60
<i>Beacon street</i> , Dartmouth to Hereford street	25,666 66	
<i>Beacon street</i> , Joy to Charles street	1,510 61	
<i>Beacon street</i> , Raleigh street to Com- monwealth avenue	1,334 91	
<i>Bennington street</i> , Saratoga to Words- worth street	11,312 54	
<i>Bennington street</i> , Neptune avenue to Orleans street	1,342 73	
<i>Berkeley street</i> , St. James avenue to Stanhope street	25 10	
<i>Bickford street</i> , Centre to Bromley street	887 72	
<i>Carried forward</i>	\$74,643 94	\$2,451 15

STREET DEPARTMENT.

DETAIL OF WORK DONE BY HIGHWAY DIVISION, PAVING SERVICE FORCE

* Repaved with large granite blocks, gravel base, with gravel joints and regulated. Unfinished work from 1908.

	Charged to Paving Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$74,643 94	\$2,451 15
<i>Bigelow street</i> , Charles View to Washington street		2,138 67
<i>Bird street</i> , Columbia road, to railroad	745 70	
<i>Blue Hill avenue</i> , Talbot avenue to River street	2,717 68	
<i>Bowdoin avenue</i> , Bowdoin to Rosseter street	69 82	
<i>Bowdoin street</i> , Hancock to Washington street	2,734 65	
<i>Bowdoin street</i> , Quincy street to Mt. Ida road	5,579 90	
<i>Bower street</i> , Warren street to Walnut avenue	986 27	
<i>Bradlee street</i> , School to Algonquin street	498 45	
<i>Brighton avenue</i> , Commonwealth avenue to Cambridge street	3,552 21	
<i>Brook avenue</i> , Dudley to Dudley street	2,019 81	
<i>Cambria street</i> , St. Cecilia street, 165 feet easterly	731 52	
<i>Cambridge street</i> , Bowdoin to Hancock street	408 19	
<i>Cambridge street</i> , Elko to Washington street	606 94	
<i>Canterbury street</i> , Angell street to Blue Hill avenue		85 00
<i>Canton street</i> , Harrison avenue to Shawmut avenue	869 22	
<i>Causeway street</i> , Portland to Canal street	1,615 26	
<i>Cedar street</i> , Highland to Centre street	1,037 30	
<i>Centre street</i> , Adams street to Centre avenue	1,684 71	
<i>Centre street</i> , Spring to Grove street	2,061 39	
<i>Centre street</i> , Eliot to Ballard street	2,361 74	
<i>Charles street</i> , Fruit to Allen street	5,012 12	
<i>Chelsea street</i> , 40 feet south of Scott's court to Chelsea Bridge South		77 00
<i>Chelsea street</i> , Eagle square to Chelsea Bridge	1,040 25	
<i>Chelsea street</i> , Gove to Prescott street	969 73	
<i>Carried forward</i>	\$111,946 80	\$4,751 82

	Charged to Paving Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$111,946 80	\$4,751 82
<i>Circuit street</i> , Washington across Fenwick street	1,066 85	
<i>City square</i> , Charlestown	1,832 28	
<i>Cliff street</i> , Washington to Warren street	970 17	
<i>Clinton street</i>	10 75	
<i>Cohasset street</i> , Corinth to Albano street		5 75
<i>Colliston road</i> , Lanark road to Kilsyth road	515 60	
<i>Columbia road</i> , Dudley to Ceylon street	1,153 40	
<i>Columbia road</i> , Newman to Preble street	1,169 80	
<i>Columbus avenue</i> , Centre to Tremont street	3,071 58	
<i>Concord square</i>	452 77	
<i>Congress street</i> , State to Water street	688 70	
<i>Copley street</i> , Atherton street to end of street	294 34	
<i>Corbet street</i> , Norfolk to Selden street	89 10	
<i>Cordis street</i> , Warren to High street	618 68	
<i>Corinth street</i> , Washington street to Belgrade avenue	531 32	
<i>Cornell street</i> , Washington to Kiltredge street	1,998 39	
<i>Cushing avenue</i> , Sawyer avenue to Columbia road	701 96	
<i>Custer street</i> , South street to the Arborway	660 62	
<i>Dale street</i> , Warren to Washington street	2,406 81	
<i>Day square</i> , junction Bennington and Chelsea streets	1,895 36	
<i>Derne street</i> , Hancock to Temple street	1,753 52	
<i>Dorchester avenue</i> , 300 feet south of Richmond to Ashmont street	4,579 78	
<i>Dorchester street</i> , Rogers street 150 feet southerly	1,083 93	
<i>Downing street</i> , Vernon to Whittier street	2,499 45	
<i>Dudley street</i> , Magazine to Clifton street	1,880 28	
<i>Carried forward</i>	\$143,872 24	\$4,757 57

	Charged to Paving Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$143,872 24	\$4,757 57
<i>Dunmore street</i> , Hampden to Magazine street.	572 57	
<i>Devonshire street</i> , Water to Milk street.		1,458 19
<i>E street</i> , West First to Bolton street.	616 97	
<i>East street</i> , South street to Atlantic avenue	3,106 42	
<i>East Broadway</i> , I to K street	427 02	
<i>East Brookline street</i> , Washington street to Harrison avenue	778 17	
<i>East Eighth street</i> , M street to Columbia road	1,273 73	
<i>East Fifth street</i> , H to I street	1,409 41	
<i>East Newton street</i> . (See Newton street.)		
<i>East Ninth street</i> , Dorchester to Mercer street	865 07	
<i>East Second street</i> , K to L street.	1,093 08	
<i>East Second street</i> , O to P street	1,087 87	
<i>East Seventh street</i> , Columbia road to O street	359 64	
<i>East Springfield street</i> . (See Springfield street.)		
<i>Eliot street</i>		3 00
<i>Eliot square</i> . (See Roxbury street.)		
<i>Elmira street</i> , Market to Murdock street	415 38	
<i>Endicott street</i> , Hanover to Cross street	1,262 16	
<i>Esmond street</i>	289 66	
<i>Essex street</i> , Commonwealth avenue to the bridge	598 62	
<i>Exchange street</i> , State street, about 159 feet northerly		74 45
<i>Fairbanks street</i> , Washington to Faneuil street	1,402 19	
<i>Fairland street</i> , Moreland street to Mt. Pleasant avenue	681 35	
<i>Falmouth street</i> , Norway street to Massachusetts avenue	9,360 05	
<i>Fenwick street</i> , Circuit to Hulbert street	441 85	
<i>Florence street</i> , retaining wall at Mt. Hope Station	2,477 13	
<i>Florida street</i> , Ashmont to King street,	655 83	
<i>Carried forward</i>	\$173,046 41	\$6,293 21

	Charged to Paving Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$173,046 41	\$6,293 21
<i>Ford's Run</i> , Clinton towards South Market street	300 45	
<i>Forest street</i> , Mt. Pleasant avenue to Mt. Pleasant avenue	1,382 34	
<i>Franklin avenue</i> , Court street to Cornhill	350 69	
<i>Franklin street</i> , Lincoln to North Harvard street	2,039 08	
<i>Gates street</i> , Dorchester to East Eighth street	1,688 96	
<i>Geneva avenue</i>	5 00	
<i>Gerard street</i> , Massachusetts avenue to Kemble street		86 40
<i>Glenway street</i> , Blue Hill avenue to Harvard street	2,449 70	
<i>Gloucester street</i> , Boylston to Beacon street	713 73	
<i>Grant street</i> , Harbor View street to Crescent avenue	1,051 44	
<i>Grampian way</i> , Woodland avenue to 200 feet east of Rockland avenue,	1,596 14	
<i>Greenbrier street</i> , Bowdoin to Park street	1,514 58	
<i>Gurney street</i> , Parker to Tremont street	673 26	
<i>Hampshire street</i> , Linden Park to Ruggles street	12,751 77	
<i>Hanover street</i> , Charter to Commercial street	553 23	987 65
<i>Harrison avenue</i> , Malden to East Dedham street	2,919 36	
<i>Harrison avenue</i> , Oak to Harvard street	374 61	
<i>Harrison avenue</i> , Dover to Way street	1,107 79	
<i>Harvard avenue</i> , Commonwealth avenue to Brookline line	907 47	
<i>Harvard street</i> , Blue Hill avenue to Chamberlain street	4,016 75	
<i>Haviland street</i> , Massachusetts avenue to Hemenway street	1,298 25	
<i>Hemenway street</i> , Boylston street to Huntington avenue		3,802 16
<i>Hereford street</i> , Newbury to Beacon street	1,072 47	
<i>Carried forward</i>	\$211,813 48	\$11,169 42

STREET DEPARTMENT — HIGHWAY DIVISION. 199

	Charged to Paving Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$211,813 48	\$11,169 42
<i>Highland avenue, Centre street to Lewis park</i>	813 31	
<i>Highland street, Hawthorne to Marcella street</i>	644 37	
<i>Hobart street, Brooks to Faneuil street,</i>	2,714 32	
<i>Holbrook street, Centre to Eliot street,</i>	760 93	
<i>Huckins street, Dennis street to Blue Hill avenue</i>	390 10	
<i>Huntington avenue, Gainsborough to Tremont street</i>	13,779 79	
<i>Ipswich street, Boylston to 150 feet west of Boylston street</i>	1,619 99	
<i>K street, East Eighth to East Ninth street</i>	518 09	
<i>Kilsyth road, Brookline line to Brookline line</i>	1,347 58	
<i>Kirkland street, Pleasant to Corning street</i>	2,083 22	
<i>Kneeland street, Washington street to Harrison avenue</i>	.	14 60
<i>Knowlton street, Telegraph to East Eighth street</i>	319 92	
<i>Lake street, Commonwealth avenue, 1,750 feet towards Washington street</i>	1,173 05	.
<i>Lamont street, Vernon to Linden Park street</i>	367 48	
<i>Lanark road, Sutherland road to 200 feet west of Brookline line</i>	702 99	
<i>Lark street, West Eighth to West Ninth street</i>	271 96	
<i>Laurel street, Bower to Ottawa street,</i>	102 32	
<i>Lewis park, Linwood street to Highland avenue</i>	318 86	
<i>Lincoln street, Cambridge to Market street</i>	5,527 07	
<i>Linden Park street, Tremont to Cabot street</i>	12,866 96	
<i>Liverpool and Decatur streets, at intersection</i>	479 32	
<i>Longwood avenue</i>	23 40	
<i>Longwood avenue, Brookline avenue to Parkway</i>	1,941 67	
<i>Main street, Austin street to Somerville line</i>	9,754 55	
<i>Carried forward</i>	\$270,334 73	\$11,184 02

	Charged to Paving Division	Appropriation for Street Improvements.
<i>Brought forward</i>	\$270,334 73	\$11,184 02
<i>Marble street</i> , Warwick to Westminster street	455 72	
<i>March avenue</i> , Park to Bellevue street, Massachusetts avenue, Southampton street to bridge	337 02	
<i>Massachusetts avenue</i> , Tremont to Washington street, north side	13,387 05	32,287 37
<i>Massachusetts avenue</i> , Edward Everett square to bridge	620 80	
<i>Merchants row</i> , State to Chatham street	1,928 44	
<i>Meridian street</i> , Eutaw to Condor street		57 15
<i>Meridian street</i> , Maverick square to Central square	1,257 13	
<i>Middle street</i> , Dorchester street to Dorchester avenue		14,069 21
<i>Minden street</i> , Bickford to Day street, Monadnock street, Dudley to Bird street	1,223 58	
<i>Morton street</i> , Blue Hill avenue to Harvard street	411 54	
<i>Morton street</i> , River street to Blue Hill avenue	290 48	
<i>Morton street</i> , Blue Hill avenue to Washington street	5,805 62	
<i>Mt. Vernon street</i> , Centre to Montview street	16,439 05	
<i>Mt. Washington avenue</i> , bridge	1,033 11	
<i>Neponset avenue</i> , Minot to Coffey street	2,248 28	
<i>Newton street</i> , Harrison avenue to Tremont street	668 41	
<i>Nixon street</i> , Mather to Centre street	1,980 10	
<i>North avenue</i> , Dudley street to Brook avenue	453 69	
<i>North street</i> , Blackstone to Richmond street	369 71	
<i>North Beacon street</i> , under railroad bridge		10,236 87
<i>Norfolk street</i> , Washington to Bernard street	805 73	
<i>Northampton street</i> , Columbus avenue to railroad	3,485 46	
<i>Northampton street</i> , Tremont street to Columbus avenue	677 71	
	763 26	
<i>Carried forward</i>	\$324,976 62	\$67,850 67

STREET DEPARTMENT — HIGHWAY DIVISION. 201

	Charged to Paving Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$324,976 62	\$67,850 67
<i>Norway street</i> , Falmouth to St. Paul street	3,385 66	
<i>Nottingham street</i> , Bowdoin avenue to Rosseter street	774 04	
<i>Parish street</i> , at Eaton square, Dor- chester	1,044 68	
<i>Park street</i> , Anawan avenue to Oriole street	369 81	
<i>Park street</i> , Dorchester, Washington to Spencer street	1,256 58	
<i>Parker street</i> , Station street to Parker Hill avenue	1,056 23	
<i>Parkman street</i> , Dorchester avenue to Adams street	842 13	
<i>Perkins street</i> , Brookline line to Arborway	403 18	
<i>Pleasant street</i> , Stoughton to Hancock street	2,292 78	
<i>Providence street</i>		1 25
<i>Providence street</i> , Church to Berkeley street	2,704 19	
<i>Robert street</i> , Belgrade avenue, 30 feet north of South Walter street	1,503 20	
<i>Robinson street</i> , Adams to Draper street	989 76	
<i>Rockland street</i> , Washington street for a distance of 400 feet	1,309 10	
<i>Rogers street</i> , Preble to Hyde street	796 42	
<i>Rose street</i> , Albany street to Harrison avenue	1,409 57	
<i>Roxbury street</i> , Kent street to and including Eliot square	1,984 18	
<i>Ruggles street</i> , Tremont to Cabot street	5,704 35	
<i>Rutledge street</i> , Bellevue to Park street	414 18	
<i>Rutherford avenue</i> , Thorndike to Cam- bridge street		4,568 13
<i>Ruthven street</i> , Walnut avenue to Elm Hill avenue		3,038 66
<i>St. James avenue</i> , Berkeley street to Huntington avenue	629 09	
<i>St. Paul street</i> , Norway to Falmouth street	2,857 22	
<i>St. Stephen street</i> , Bryant to Gains- borough street	2,474 29	
<i>Carried forward</i>	\$359,177 26	\$75,458 71

	Charged to Paving Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$359,177 26	\$75,458 71
<i>Saratoga street</i> , Bennington street to beyond Austin avenue	2,281 86	
<i>Saratoga street</i> , Bremen to Pope street, <i>Sawyer avenue</i> , Cushing avenue to Cushing avenue	486 74	
<i>Sayward street</i> , Columbia road to Bird street	1,072 11	
<i>Scollay square</i> and Court street, work done in 1908	273 19	
<i>Seminary street</i> , Austin to Lawrence street		8 00
<i>Seneca street</i> , Harrison avenue to Albany street	684 58	
<i>Silver street</i> , Dorchester avenue to A street	4 00	
<i>Simmons street</i> , Linden Park to Vernon street	932 75	
<i>South street</i> , Centre street to Arborway	4,456 34	
<i>South Market street</i> , Commercial street to Atlantic avenue	1,206 14	
<i>Spring street</i> , Gardner street to railroad bridge	10,156 52	
<i>Springfield street</i> , Harrison avenue to Columbus avenue	718 84	
<i>Spring Garden street</i> , Harbor View street to Crescent avenue	1,664 58	
<i>Staniford street</i> , Green to Cambridge street	858 96	
<i>State street</i> , Broad to Devonshire street	345 91	
<i>Sullivan square</i> , Alford street to Rutherford avenue		65 40
<i>Summer street</i> , Melcher to A street	994 35	
<i>Summer street</i> , Fort Point channel to A street		485 59
<i>Sutherland road</i> , Englewood avenue to Orkney road	1,474 16	
<i>Taber street</i> , Winslow to Warren street	730 55	
<i>Talbot avenue</i> , Washington street to railroad bridge	1,970 57	
<i>Temple street</i> , Derne to Cambridge street	3,176 06	
<i>Thornton street</i> , Ellis to Cedar street	543 34	
	505 58	
<i>Carried forward</i>	\$393,714 39	\$76,017 70

	Charged to Paying Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$393,714 39	\$76,017 70
<i>Townsend street</i> , Walnut avenue to Warren street	3,143 69	
<i>Tremlett street</i> , Waldeck to Hooper street	816 86	631 00
<i>Tremont row</i> , Pemberton square to Howard street	160 26	
<i>Tremont street</i> , Texas to Prentiss street	1,465 55	
<i>Union street</i> , Main street to Ruther- ford avenue	1,377 84	
<i>Vermont street</i> , Corey to Mt. Vernon street	1,068 57	
<i>Vernon street</i> , Tremont to Cabot street, <i>Vine street</i> , Dudley street to Mt. Pleasant avenue	6,270 12	
<i>Virginia street</i> , Dudley to Bird street, <i>Waldeck street</i> , Tremlett street to Geneva avenue	641 38 707 84	
<i>Walden</i> , Centre and Bickford streets, at Plant Factory	1,168 91	
<i>Walnut avenue</i> , Humboldt avenue to Seaver street	1,075 37	
<i>Walnut street</i> , Water street to railroad, <i>Warren avenue</i> , Berkeley street to Columbus avenue	8,915 93 1,308 84	
<i>Washburn street</i> , Dorchester avenue to Boston street	854 61	
<i>Washington street</i> , Brookline line to Newton line	942 35	
<i>Washington street</i> , River to Codman street	23,244 10	
<i>Washington street</i> , Cornhill to Court avenue	2,664 90	
<i>Washington street</i> , Green to Morton street		40 18
<i>Washington street</i> , Dover to Roxbury street	9,222 77	5,247 75
<i>Washington street</i> , Hanover to Elm street	1,166 98	
<i>Washington street</i> , Ashland street to railroad	570 70	
<i>Washington street</i> , Arborway to Hyde Park avenue	8,540 52	
<i>Washington street</i> , Centre street to Columbia road	136 53	
	1,145 83	
<i>Carried forward</i>	\$470,324 84	\$81,936 63

	Charged to Paving Division.	Appropriation for Street Improvements.
<i>Brought forward</i>	\$470,324 84	\$81,936 63
<i>Weld street</i> , Centre to Church street . .	2,582 02	
<i>Weld street</i> , Willow to Maple street . .	738 02	
<i>West Brookline street</i> , Washington to Tremont street	533 35	
<i>West Canton street</i> (see Canton street).		
<i>West Cedar street</i> , Mt. Vernon to Chestnut street		32 20
<i>West Cedar street</i> , Mt. Vernon to Pinckney street	1,530 27	
<i>West Concord street</i> , Shawmut avenue to Tremont street	914 65	
<i>West Eighth street</i> , D to E street . . .	598 93	
<i>Western avenue</i> , Cambridge street to Watertown Bridge	2,922 43	
<i>Westland avenue</i> , Massachusetts avenue to Hemenway street	2,365 63	
<i>West Newton street</i> (see Newton street).		
<i>West Springfield street</i> (see Springfield street).		
<i>West Third street</i> , D to E street	806 03	
<i>West Third street</i> , F to Dorchester street	1,456 07	
<i>Wheeler street</i> , Shawmut avenue to Corning street	2,100 18	
<i>Whitney street</i> , Tremont to Conant street	1,366 18	
<i>Whittier street</i> , Columbus avenue to Cabot street	8,216 95	
<i>Wilkes street</i> , Washington to Bradford street	602 93	
<i>Williams street</i> , Washington street to Westminster avenue	1,486 99	
<i>Woodman street</i> , Custer to Jamaica street	402 05	
<i>Woodward Park street</i> , Folsom street to Howard avenue	3,322 60	
<i>Zeigler street</i> , Warren to Dearborn street	613 25	
Totals	<u>\$502,883 37</u>	<u>\$81,968 83</u>

CHARGED TO SPECIAL APPROPRIATIONS.

<i>Old Colony avenue</i> , construction of	\$21,479 06
<i>Hyde Park avenue</i> , Ashland street to Hyde Park line	2,450 96
	<u>\$23,930 02</u>

CHARGED TO APPROPRIATION FOR HIGHWAYS, MAKING OF.

<i>Aldrich street</i> , Belgrade avenue to Beech street . . .	\$218 08
<i>Alpha road</i> , Waldeck to Park street	145 64
<i>Alther street</i> , Hampden to Reading street	55 04
<i>Antrim street</i> , Bennington to Ashley street	13 00
<i>Arundel street</i> , Centre to Walter street	74 35
<i>Avenue Louis Pasteur</i> , Longwood avenue to the Fenway	10,941 25
<i>Balfour street</i> , Wayland to Dalkeith street	2 00
<i>Belfort street</i> , Sagamore to Saxton street	1,295 79
<i>Bellevue street</i> , Hamilton to Kane street	180 16
<i>Benton street</i> , Tremont street to Columbus avenue,	2,075 35
<i>Bernard street</i> , Talbot avenue to the railroad	3 25
<i>Beaumont street</i> , Adams to Carruth street	3,949 30
<i>Bruce street</i> , extended to Wrentham street	20
<i>Bucknam street</i> , Fisher avenue to Lawn street	90 95
<i>Carmen street</i> , Shafter to Kilton street	4,385 94
<i>Clarkwood street</i> , Blue Hill avenue to Norfolk street	22 00
<i>Cottage street</i> , Maverick to Gove street	2 00
<i>Cottage terrace</i> , East Cottage to Marshfield street	4,612 32
<i>Colberg avenue</i> , Belgrade avenue to Beech street	237 35
<i>Corona street</i> , Bowdoin street to Geneva avenue	800 80
<i>Cotton street</i> , Walter to Fairview street	38 10
<i>Covington street</i> , East Eighth street to Columbia road	2,240 05
<i>Dakota street</i> , Greenbrier street to Geneva avenue,	15 75
<i>Damrell street</i> , Dorchester avenue to Old Colony avenue	6 00
<i>Dayton street</i> , Nixon street to railroad	1,950 21
<i>Deaconess road</i> , Brookline avenue to Bellevue street	11 00
<i>Dighton street</i> , Circle to Chestnut Hill avenue	563 00
<i>Dix place</i> , to Tremont street	14 67
<i>Doris street</i> , Dorchester avenue to Auckland street,	1,024 52
<i>Edgar street</i> , Parker to Mechanic street	42 13
<i>Evergreen street</i> , to South Huntington avenue	3,346 42
<i>Farquhar street</i> , South to Selwyn street	50 48
<i>Fisher avenue</i>	446 72
<i>Fletcher street</i> , Centre to South street	10,921 68
<i>Geneva avenue</i> , Columbia road to Bowdoin street	58 10
<i>Harlem street</i> , Glenway to Greenwood street	1 75
<i>Howe street</i> , from Hancock street	27 50
<i>Kingsdale street</i> , to a proposed street called Wales street	84 29
<i>Kempton street</i> , Huntington avenue to Fenwood road	4 00
<i>Carried forward</i>	\$49,951 14

<i>Brought forward</i>	\$49,951 14
<i>Larkin street</i> , Adams to Hampden street	4 00
<i>Litchfield street</i> , Lincoln street to Western avenue .	124 25
<i>Mapleton street</i> , Murdock to Market street . . .	4 00
<i>Marbury terrace</i> , northwesterly from Amory street,	1,332 90
<i>Maybrook street</i> , Glenway to Greenwood street .	1,393 37
<i>Mechanic street</i> , Ruggles to Edgar street . . .	49 19
<i>Meehan street</i> , Williams to Keyes street	95 94
<i>Melbourne street</i> , Centre street to southeasterly line of Brent street extended	4,034 38
<i>Millet street</i> , Athelwold to Harvard street . . .	2,380 62
<i>Montfern avenue</i> , Washington to Faneuil street .	5,093 70
<i>Mora street</i> , Washington street to Milton avenue .	129 68
<i>Mountain avenue</i> , Lauriat to Ballou avenue . . .	10,468 31
<i>Newcastle road</i> , Faneuil to Hobson street	5,587 88
<i>Opera place</i> , Huntington avenue to St. Stephen street	2,357 89
<i>Penhallow street</i> , Melville avenue to Mather street,	1,811 44
<i>Plainfield street</i> , Williams to Keyes street . . .	11 35
<i>Prescott street</i> , Frankfort street to railroad . . .	1,258 53
<i>Public Alley 425</i> , Dartmouth to Exeter street, between Commonwealth avenue and Marl- borough street	8 00
<i>Radcliffe street</i> , Harvard to Faxon street	6,253 40
<i>Ralson street</i> , Dorchester avenue to Boston street,	19 80
<i>Rexford street</i> , Blue Hill avenue to Oakland street,	8,188 26
<i>Rosemont street</i> , extended to Train street	2 00
<i>South Huntington avenue</i> , Huntington avenue to South Huntington avenue	3 25
<i>Stonehurst street</i> , Topliff to Hamilton street . . .	5,104 43
<i>Sudan street</i> , Dorchester avenue to east side of Sagamore street	72 70
<i>Taft street</i> , Dorchester avenue to Pleasant street .	16 00
<i>Upham avenue</i> , Hancock street to Cushing avenue,	2,645 79
<i>Walworth street</i> , Belgrade avenue to South street .	5,092 55
<i>Wellesley park</i> , Park street to Melville avenue . .	9,971 63
<i>Wentworth street</i> , Norfolk street to Dunbar avenue,	90 14
<i>Whitman street</i> , Norfolk street to Dunbar avenue .	117 39
	<u>\$123,673 91</u>

STREET DEPARTMENT — HIGHWAY DIVISION — PAVING SERVICE.

Maintenance of Macadam Streets.

Schedule of Amounts Resurfaced and Cost of Same for Years Ending January 31, 1905 to 1910.

	1905.	1906.	1907.	1908.	1909.
Length of macadam in miles.....	337.10	341.22	346.02	348.62	350.85
Total area of macadam in square yards.....	6,155,668	6,269,208	6,348,389	6,406,246	6,436,823
Total cost of maintenance of macadam *.....	\$673,884 55	\$700,401 56	\$480,607 27	\$340,822 36	\$421,420 66
Cost per mile over entire mileage.....	\$2,000 00	\$2,041 00	\$1,389 00	\$977 62	\$1,201 14
Cost per square yard over entire area *.....	\$0 11	\$0 11	\$0 08	\$0.053	\$0.065
Length of macadam resurfaced yearly in miles.....	32.3	27.6	20.9	22.2	43.1
Cost per mile of macadam resurfaced yearly.....	\$18,300 00	\$22,017 00	\$17,742 00	\$11,705 13	\$9,777 74
Area of macadam resurfaced yearly in square yards.....	552,146	507,689	392,670	406,438	582,267
Cost per square yard of resurfacing over yearly area.....	\$1 07	\$1 19	\$0 95	\$0.639	\$0.572
Cost per square yard of street cleaning over entire macadam area.....	\$0.0135	\$0.0148	\$0.0173	\$0.01264	\$0.0137
Percentage of maintenance and street improvements appropriations used for maintenance of macadam *.....	41%	43.9%	36.5%	33.7%	33.6%

* Including street cleaning by Paving Division.

New Edgestones. (Not including "323" and "393" streets.)*First Setting. Linear Feet.*

YEAR.	South Boston.	East Boston.	Charlestown.	Brighton.	West Roxbury.	Dorchester.	Roxbury.	City Proper.	Totals.
1900.....	729	616	100	.....	614	9,633	8,882	1,544	22,118
1901.....	1,925	1,184	.....	4,627	7,936	22,574	13,942	2,480	54,668
1902.....	1,957	1,121	.....	688	990	10,428	3,842	2,082	21,108
1903.....	1,578	1,581	.....	5,838	912	10,959	10,164	4,131	35,163
1904.....	1,391	1,124	569	457	2,677	3,912	3,661	2,092	15,883
1905.....	2,049	1,494	.....	1,867	6,056	13,548	1,814	4,705	31,533
1906.....	2,078	628	.....	261	4,203	15,119	2,307	.....	24,596
1907.....	414	1,263	250	908	349	4,781	1,663	534	10,162
1908.....	656	798	.....	2,405	2,399	3,654	4,811	813	15,236
1909.....	723	2,898	.....	214	779	4,833	2,380	5,253	17,080
Totals....	13,500	12,707	919	17,265	26,915	99,441	53,166	23,634	247,547

New Brick Sidewalks. (Not including "323" and "393" streets.)*First Laying. Square Yards.*

YEAR.	South Boston.	East Boston.	Charlestown.	Brighton.	West Roxbury.	Dorchester.	Roxbury.	City Proper.	Totals.
1900.....	1,069	1,476	477	873	1,583	4,033	4,999	2,858	17,368
1901.....	4,617	1,142	323	100	3,825	5,613	4,920	549	21,089
1902.....	1,319	1,425	.....	288	342	2,537	1,668	190	7,769
1903.....	1,161	635	.....	.....	182	700	2,342	186	5,206
1904.....	1,529	817	429	940	432	1,915	2,136	923	9,121
1905.....	1,186	1,980	.....	202	103	4,140	790	400	8,801
1906.....	934	699	.....	106	278	1,758	899	.....	4,674
1907.....	455	1,157	223	250	400	856	296	328	3,965
1908.....	217	836	.....	.....	156	958	884	313	3,364
1909.....	311	2,597	.....	.....	.....	406	5,359	.....	8,673
Totals....	12,798	12,764	1,452	2,759	7,301	22,916	24,293	5,747	90,030

Recapitulation for 1909.

	Edgestones. <i>Linear Feet.</i>	Brick. <i>Square Yards.</i>
South Boston Paving District, No. 1.....	723	311
East Boston Paving District, No. 2.....	2,898	2,597
Brighton Paving District, No. 4.....	214	.....
West Roxbury Paving District, No. 5.....	779	.....
Dorchester Paving District, Nos. 6 and 9....	4,833	406
Roxbury Paving District, No. 7.....	2,380	5,359
City Proper Paving District, Nos. 8, 10.....	5,253	.....
Totals.....	17,080	8,673

Loads of Dirt and Street Cleanings Removed from February 1, 1909,
to January 31, 1910.*By Paving Service.*

DISTRICTS.	Single.	Double.	Cubic Yards.
South Boston.....	342	730	1,802
East Boston.....	437	.....	437
Charlestown.....	317	16	349
Brighton.....	297	353	1,003
West Roxbury.....	2,164	564	3,292
Dorchester.....	341	632	1,605
Roxbury.....	7,241	2,393	12,027
South End.....	6,354	49	6,452
Ashmont.....	729	158	1,045
North End.....	577	7	591
Totals.....	18,799	4,902	28,603

By Contract.

DISTRICTS.	Loads.	Cubic Yards.
Brighton District.....	7,448½	8,491½
West Roxbury District.....	4,170	6,419
Dorchester and Ashmont Districts.....	3,563	7,477½
Totals.....	15,181½	22,388

Loads of Snow Removed from February 1, 1909, to January 31, 1910.

By Paving Service.

DISTRICTS.	Single.*	Double.†	Cubic Yards.	Total Cost.‡
South Boston.....	1,254	2,952	7,158	\$6,791 10
East Boston.....	387	29	445	4,387 04
Charlestown.....	922	1,057	3,036	4,895 38
Brighton.....	551	472	1,495	5,014 73
West Roxbury.....	2,109	1,035	4,179	8,527 62
Dorchester.....	200	481	1,162	3,771 92
Roxbury.....	414	76	566	11,197 63
South End.....	3,811	5,102	14,015	13,285 98
Ashmont.....	401	372	1,145	3,197 28
North End.....	2,886	1,138	5,162	12,658 89
Totals.....	12,935	12,714	38,363	\$73,727 57

* Single load 1 cubic yard.

† Double load 2 cubic yards.

‡ This cost includes the plowing of gutters, cleaning of sidewalks, picking ice, etc., which is not carted away.

Loads of Snow Removed from February 1, 1909, to January 31, 1910.

By Contract.

DISTRICTS.	Single.	Double.	Cubic Yards.	Cost per Cubic Yard.	Total Cost.
Snow District No. 1.....		2,291	6,983	\$0 29	*\$2,097 34
Snow District No. 2.....		2,444	7,554	35	2,643 90
Snow District No. 3.....		1,545	4,782	37	1,769 34
Snow District No. 4.....		3,334	11,770	42	†4,961 64
Snow District No. 5.....		189	682	45	306 90
Totals.....		9,803	31,771	.....	\$11,779 12

* Includes 803 cubic yards at \$0.38 (removed under 1908 contract) — \$305.14.

† Includes 228 cubic yards at \$0.50 (removed under 1908 contract) — \$114.

STREET OPENINGS.

Permits for making openings in the public streets have been issued from the Permit Office during the year ending January 31, 1910, as follows:

NAME.	Permits.	Length in Feet.
Adams-Pond Company.....	128	8,750
Boston Fire Department.....	21	1,870
Boston Lamp Division.....	402	2,049
Boston Park Department.....	1	15
Boston Police Department.....	23	1,690
Boston Public Grounds Department.....	1	30
Boston Sewer Division.....	513	54,004
Boston Transit Commission.....	1	75
Boston Water Department.....	2,376	104,739
Boston Consolidated Gas Company.....	2,184	129,060
Boston Elevated Railway Company.....	242	113,978
Boston Low Tension Wire Association.....	27	1,910
Boston Pneumatic Transit Company.....	1	15
Boston, Revere Beach & Lynn Railroad.....	3	150
Boston Terminal Refrigerating Company.....	2	150
Boston & Albany Railroad.....	8	810
Boston & Maine Railroad.....	3	70
Charles River Basin Commission.....	2	165
Charlestown Gas and Electric Company.....	138	8,003
East Boston Gas Company.....	229	17,331
Eastern Cold Storage Company.....	3	36
Edison Electric Illuminating Company.....	2,234	97,545
Hind, T. J. & Co.....	81	4,162
Lynn & Boston Railroad Company.....	1	30
Massachusetts Telephone and Telegraph Company.....	1	90
Metropolitan Water and Sewerage Board.....	3	2,412
Murfeldt, W. A., Company.....	155	6,487
New England Telephone and Telegraph Company..	664	27,078
New York, New Haven & Hartford Railroad.....	10	268
Old Colony Street Railway Company.....	1	8
Postal Telegraph Cable Company.....	11	1,806
Quincy Market Cold Storage and Warehouse Company.....	13	204
Schoolhouse Commission.....	2	480
Simpson Brothers Corporation.....	85	3,861
Standard Oil Company.....	16	106
Telepost Company.....	3	1,240
Warren Brothers Company.....	64	7,510
Western Union Telegraph Company.....	7	158
Miscellaneous.....	2,691	170,915
Emergency, Class A.....	1,247	.....
Emergency, Class A, returned as used 857, estimated length.....	.....	21,425
Totals.....	13,597	790,685

Making a total length of openings of about 151 miles.

Permits other than for street openings have been issued as follows:

Advertising by men wearing hat and coat lettered	8
Cleaning snow from roofs	121
Driving cattle	22
Dumping snow in public alleys	50
Erecting and repairing awnings	3,709
Erecting and repairing buildings	8,918
Emergency permits, Class B	744
Feeding horses on streets	2,937
Loading and unloading goods	52
Moving buildings	11
Painting signs or notices on obstruction fences	15
Placing signs flat on buildings.	3,248
Projecting signs or lamps	111
Raising or lowering safes, machinery, etc	519
Special permits for other than above purposes	217
Totals as above	20,682
Totals for street openings	13,597
Totals for all permits	<u>34,279</u>

COAL VAULTS OR AREAS BENEATH SIDEWALKS.

There have been thirty-eight (38) permits issued for the construction of areas or coal vaults during the year, in accordance with orders of the Board of Aldermen.

There have been seventeen (17) permits issued for sidewalk covers of various kinds over areas.

BONDS FOR PERMITS.

There are on file in the Permit Office 1,553 bonds to cover the issuance of certain permits, as called for under the ordinances.

POLES.

Permits have been issued during the year for the placing of four hundred forty-nine (449) new poles as per plans on file in the Permit Office and in accordance with orders from the Board of Aldermen.

Permits have been issued for the resetting of one thousand two hundred seventy-two (1,272) poles which were defective or dangerous.

Permits have been issued for the removal of three hundred six (306) poles in accordance with orders from the Board of Aldermen and the Commissioner of Wires.

PLANS.

There are on file in the Permit Office plans indexed as follows:

Bridge grades	10
Conduits	4,200
Elevated structural	125
Poles	5,400
Street numbering	1,740
Track locations	2,050
Miscellaneous	550
	14,075

NOTICES.

There have been 15,405 notices sent to district foremen, contractors, public service corporations and individuals to make repairs to the roadways where defects existed for which they were responsible.

There have been 452 notices sent to departments and corporations to perform work under the direction of the chief engineer of this department.

SIDEWALK DEFECTS.

Notices to property owners to repair defects in sidewalks have been sent out as follows:

Wooden steps protruding beyond line	4
Curbing smooth, around bulkheads	322
Areas without guard rails	696
Glass or bull's-eyes gone from coal-hole covers or area covers	561
Coal-hole covers smooth or broken	233
Flagging around coal-hole covers cracked or broken	29
Gratings in dangerous condition	24
Bulkhead hinges high or broken	38
Bulkhead covers in dangerous condition	115
Gratings above or below grade	31
Window openings not properly protected	24
Gutter stones should be removed	138
Conductors should be connected to sewer	116
Granite sidewalks over areas smooth	117
Rims of area covers smooth	67
Bricks over areas settled and broken	8

Street Numbering.

	Whole Streets Num- bered.	Whole Streets Renum- bered.	Part of Street Num- bered.	Part of Street Renum- bered.	Estates Num- bered.	Estates Renum- bered.	Figures Supplied.
East Boston.....			2	1	94	8	247
Charlestown.....	2				31		65
City Proper.....		1			145	16	285
South Boston.....			1	1	61		169
Dorchester.....		2	22	5	800	25	2,076
Roxbury.....		2	6	4	180	50	722
West Roxbury...	1		1	1	252	6	603
Brighton.....	3	1	10		289	10	772
Totals.....	6	6	42	12	1,852	115	4,939

TABLE SHOWING THE COST OF ASPHALT REPAIRS PER SQUARE YARD OF STREET SURFACE
FROM 1900 TO 1909, INCLUSIVE.

Trinidad Asphalt.

City Proper.

STREET.	Limits.	Year Laid.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Albany street.....	80 feet north of Broadway, across Way street.....	1899	.....	.....	.....	.....	*	.....	.....	\$0.009	.....	\$0.005
Albany street.....	East Concord street to 225 feet north of Massachusetts avenue.....	1884	\$0.117	\$0.029	\$0.019	\$0.090	\$0.029	\$0.082	\$0.055	.086	\$0.124	.401
Arch street.....	Franklin street to Milk street.....	1893	.075	.....	.065	.069	.091	.057	.062	†.082	.....	.....
Arch street.....	200 feet south of Milk street to Frank- lin street.....	1893	.....	.....	.....	.....	.....	.....	.....	.....	.329	.145
Ash street.....	Bennet street to Nassau street.....	1887	.028	.128	.064	.018	.033	†	.....	.....	.....	†
Barton court.....	Barton street to Brighton street.....	1894	.222	.113	.....	.....	†	.....	.....	.....	.....	.....
Batterymarch street..	Milk street to Liberty square.....	1896	.....	*	.....	.....	.247	.004	.008	.070	.030	.013
Beacon street.....	Charles street, across Arlington street.	1891	.086	.075	.024	.047	.043	.048	.049	.107	†.062	.....
Beacon street.....	Charles street to Brimmer street.....	1891	.....	.....	.....	.....	.....	.....	.....	.....	.109	.064
Beacon street.....	Easterly side of Dartmouth street to within 150 feet of westerly line of Gloucester street.....	1892	.127	.049	.020	.033	.060	.013	.036	.063	.084	.028
Beacon street.....	150 feet from westerly line of Gloucester street to 75 feet beyond westerly line of Gloucester street.....	1898	.....	.....	.....	*	.004	.006	.014	.....	.010	.003

* Guarantee expired in this year.

† Repaved in this year.

† Part repaved in this year.

Chambers street	Brighton street to Charles street	1895			.003	.068	.011	.025	.062	.073	.272	.004
Chandler street	At Castle square	1899					*					.150
Charter street	Hanover street, across Unity street	1894		.107	.031	.146	.189	.192	.148	.386	.616	.049
Cherry street	Washington street to Shawmut ave	1892			.029	.025		.047	.027	.108	.012	.038
Clark street	Hanover street to North street	1892		.070	.035	.102	.033	.027	.084	.136	.392	
Columbus avenue	Boston & Albany Railroad Bridge, across Massachusetts avenue	1884-99	.176	.102	.125	.178	.126	.169	†	†		
Columbus avenue	Massachusetts avenue to 301 feet south of Camden street	1896		*	.020	.037	.123	.193	†	†		
Congress square	Congress square to Congress street	1883-1900						*		.127	.007	
Cooper street	North Margin street, to Endicott street	1887	.064	.076	.030	.152	.128	.051	.123	.340	.339	.170
Cooper street	Endicott street to Washington Street North	1897			*	.189	.065	.158	.236		†	
Corning street	Washington street to Shawmut avenue	1883-96		*	.235	.237	.056	.204	.202	.487	† .061	
Court street	Washington street to Court square	1891-1904	.121	.238	.334	.027	†					
Court square	Court street to Court street	1881	.021	.178	.034	.063	† .115					
Court square	Easterly and southerly side	1881-94	.031	.176	.074	.118	.171	.107	.036	.097	.191	.046
Dartmouth street	Boylston street to Newbury street	1894	.039		.007	|| .089				.026	.067	
Dartmouth street	Buckingham street to 127 feet south of Stuart street	1899						*	.019			
Davis street	Washington street to Harrison avenue	1892	.015		.054	.072	.010	.082	.060	.081	.100	.173
Doane street	Kilby street to Broad street	1881	.040	.032	.080	.198	.103	.043		.058	.307	.055

† Westerly side repaved in this year.
|| Part repaved in this year.

* Repaved in this year.
† Repaved in this year.

* Guarantee expired in this year.
§ From center of Byron street to Chestnut street repaved in this year.

Cost of Trinidad Asphalt Repairs, 1900-1909.—Continued.

STREET.	Limits.	Year Laid.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Edinboro street.....	Essex street to Beach street.....	1895	.....	.....	\$0.010	\$0.089	\$0.021	\$0.113	\$0.086	\$0.061	\$0.068	\$0.170
Exchange place.....	Congress street to Kilby street.....	1887	\$0.026	\$0.123	.036	†	.....	.....	.....	.....	.....	.....
Ferdinand street.....	At Castle square.....	1889	.....	.....	.....	.....	*	.....	.....	.....	.....	.....
Groton street.....	Washington street to Shawmut avenue.....	1892	.032	.....	.040	.045	.028	.....	.031	.022	.045	.045
Hanover avenue.....	Hanover street to North street.....	1892	.060	.....	.016	.301	.006	.060	.059	.028	.237	.102
Harrison avenue.....	East Newton street to East Spring- field street.....	1888-95	.090	.043	.080	.118	.017	.068	.115	.221	.369	.233
Harrison avenue.....	East Springfield street to 90 feet southerly.....	1888	.....	.043	.080	.118	.017	.....	.....	.195	.880	.078
Hollis street.....	Tremont street, towards Washing- ton street.....	1891	.031	.130	.036	.164	.150	.051	.071	.173	.092	.073
Hudson street.....	Beach street to 90 feet north of Curve street (minus Kneeland and Har- vard streets intersection).....	1891	.155	.046	.064	.101	.037	.068	.132	.149	.175	.142
Kilby street.....	Liberty square.....	1881	.006	.037	.038	.028	.....	.....	.....	.....	.....	.....
Kilby street.....	Central street to Milk street (inclu- ding Liberty square).....	1881-98	.....	.....	.....	*	.030	.056	.224	.149	‡.010	.016
Laconia street.....	Washington street to Harrison avenue.....	1896	.....	*	.042	.083	.....	.027	.054	.056	.157	.018
La Grange st eet.....	Tremont street, towards Washing- ton street.....	1897	.....	.....	*	.....	.100	.068	.132	.110	.180	.074
Lincoln place.....	Worcester street to Springfield street.....	1897	.....	.....	*	.....	.....	.....	.024	.....	.037	.021

Malcolm street.....	1892	.....	.....	.010	.019	.....	.065	.....	.101	.128	.104
Massachusetts avenue, Columbus avenue to Tremont street (southerly roadway).....	1892	.045	.053	.033	.058	.031	.034	.019	.073	.088	.070
Massachusetts avenue, Tremont street to Shawmut avenue (southerly roadway).....	1892	.045	.053	.033	.058	.031	.017	.015	.019	.063	.045
Massachusetts avenue, Shawmut avenue to Washington street (southerly roadway).....	1892	.045	.053	.033	.058	.031	.013	.048	.043	.200	.021
Moon street.....	1891	.034	.017	.010	.098	.....	.060	.096	.035	.150	.105
North Bennet street..	1883	.140	.127	.132	.044	†	.....	.....	.....	.....	.....
North Margin street..	1895	.....	.....	.015	.097	.015	.029	.032	.008	.114	.005
Oxford street.....	1895	.....	.010	.....	.048	.006	.096	.049	.076	.159	.107
Parkman street.....	1898	.....	.....	.....	*	.....	.....	.007	.034	.020	.....
Parmenter street.....	1893	.184	.....	†	.....	.....	.....	.....	.....	.....	.....
Pinckney street.....	1895	.....	.....	.002	.113	.032	.015	.089	.096	.248	.056
Pine street.....	1896	.....	*	.....	.052	.....	.081	.015	.032	.037	.040
Pleasant street.....	1900	.....	.....	.....	.....	.....	*	.648	1.717	.314	.399
Poplar street.....	1887-92	.097	.068	.054	.128	.032	.057	.050	.101	.217	.022
Spring street.....	1895	.....	.024	.084	.279	.091	.107	.187	.381	.440	.069
Stevens street.....	1897	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stillman street.....	1892	.038	.....	.030	.123	.....	.009	.038	.047	.349	.009
Stoddard street.....	1892	.408	.....	.014	.....	.099	.....	.212	.040	.049	.....
Sun-court street.....	1891	.020	.182	.024	.295	.069	.244	.108	.101	.304	.118

* Guarantee expired in this year.

† Repaved in this year.

‡ Part repaved in this year.

Moulton street.....	1897	.....	*	.....	.....	.....	.012	.....	.....	.....	.008
Tufts street.....	1897	.....	*	.....	.....	.....	.....	.....	.....	.038	.044
Vine street.....	1897	.....	*	.....	.....	.....	.....	.....	.....	.....	.007

South Boston.

D street.....	1889	\$0.016	\$0.048	\$0.056	\$0.221	\$0.032	\$0.051	\$0.165	\$0.137	\$0.302	\$0.126
E street.....	1892	.....	.....	.....	.....	.053	.035	.026	.....	.213	.025
Rogers street.....	1891	.....	.....	.....	.047	.....	.....	.....	.....	.074	.....
West Sixth street.....	1887	.019	.....	.154	.178	.032	.073	.....	.....	.....	.....
West Third street.....	1892	.....	.....	.031	.....	.054	.....	.032	.027	.117	.007

Roxbury.

Cabot street.....	1891	\$0.046	\$0.022	\$0.027	\$0.023	\$0.002	\$0.019	\$0.025	\$0.069	\$0.078	\$0.014
Cabot street.....	1892	.012	.....	.010	.012	.006	.020	.034	.....	.100	.108
Cabot street.....	1897	.....	.....	*	.....	.001	.....	.008	.013	.161	.024
Columbus avenue.....	1896	.....	*	.020	.037	.123	.060	†	.....	.....	.....

* Guarantee expired in this year.

† Repaved in this year.

Cost of Sicilian Rock Asphalt Repairs, 1900-1909.

City Proper.

STREET.	Limits.	Year Laid.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Acton street.....	Washington street to Bradford street.	1896	.....	*	\$0.054	.....	\$0.008	\$0.010	\$0.051	\$0.018	\$0.129	\$0.095
Albany street.....	Easterly side of Stoughton street, across East Concord street.....	1897	.....	.....	*	\$0.185	.205	†.048	.....	.....	.....	.....
Ash street.....	Oak street, across Nassau street.....	1895	\$0.115	.....	.196	.....	.183	.029	.....	.070	.....	†
Avery street.....	Washington street to Mason street..	1897	.....	.....	*	.175	.....	†	.099	.....	.096	.100
Barton street.....	Leverett street to Milton street.....	1895	.....	\$0.101	.015	.....	.052	.019	.035	.035	.101	.005
Bradford street.....	Waltham street to Shawmut avenue.	1897	.....	.....	*	.....	.021	.001	.011	.018	.010	.021
Cobb street.....	Washington street to Shawmut ave..	1897	.....	.....	*	.....	.....	.042	.019	.006	.008	.....
Decatur street.....	Washington street to Harrison ave....	1892	.080	.....	.098	.174	.052	.126	.119	.187	.460	.094
Dwight street.....	Shawmut avenue to Tremont street..	1893	.015	.....	.030	.....	.013	.022	.005	.041	.005	.025
Exeter place.....	Chauncy street to Harrison avenue...	1897	.....	.....	*	.....	.....	.046	.032	.105	.008	.....
Fabin street.....	Newland street to Ivanhoe street....	1895	.....	.....	.....	.....	.....	.067	.....	.....	.008	.....
Fay street.....	Dover street to Harrison avenue....	1894	.....	.....	.099	.296	.048	.....	.014	.020	.084	.015
Hamburg street.....	Mystic street to Harrison avenue....	1896	.....	.....	.....	.035	.022	.006	.023	.020	.010	.010
Hanover street.....	Tileston street, across Charter street.	1896	.....	.....	.105	.179	.065	.144	.146	.122	.234	.137
Huntington avenue..	Boston & Albany Railroad to Massa- chusetts avenue.....	1896	.....	*	.008	.013	.012	.017	.015	.035	.039	.128
Kingston street.....	Beach street to Essex street.....	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	*.080
Mason street.....	From 213 feet south of West street to 444 feet south of West street.....	1894	.191	.300	.099	.533	.198	.256	.325	†	.....	.....

Massachusetts avenue, Washington street to Harrison avenue (southerly roadway)	1894	.010	.....	.014	.019	.011	.013	.035	.002	.029	.014
Massachusetts avenue, Harrison avenue to Albany street (southerly roadway)	1894	.010	.....	.014	.019	.011	.034	.003	.010	.055	.045
Mayo street	1897	.....	.....	*	.....	.....	.065	.011	.....	.....	.027
Meander street	1896	.....	*	.182	.014	.....	.002	.....	.....	.015	.089
Motte street	1892-99	.....	.161	.....	.....	.025	.....	.....	.147	.032	.017
Mystic street	1895	.....	*	.....	.046	.012	.036	.016	.015	.027	.010
North Margin street	1897	.....	.....	*	.095	.027	.095	.015	.077	.105	.003
Norwich street	1896	.....	*	.....	.027	.....	.029	.015	.....	.014	.016
Ohio street	1896	.....	*	.043	.....	.077	.040	.021	.030	.088	.093
Pemberton square	1894	.....	.....	.....	.....	.030	.008	.012	.002	.013	.....
Prince street	1895	.....	.....	.....	.052	.190	.007	.035	.038	.073	.021
Shawmut avenue	1898	.....	.....	.....	*	.057	.069	.081	.150	.198	.194
Taylor street	1896	.....	*	.014	.....	.....	.048	.020	.....	.020	.....
Whitmore street	1895	.....	.....	.023	.....	.....	.063	.030	.....	.026	.018

South Boston.

Athens street	1895	.....	.....	.....	.....	.....	\$0.019	.....	\$0.009	.....	\$0.073
Athens street	1892	.....	.....	.....	.....	.....	.028	\$0.013	.010	.....	.064
East Broadway	1897	.....	.....	*	\$0.035	\$0.056	.110	.062	.048	\$0.052	.....
K street	1896	.....	*	\$0.084	.129	.054	.048	.060	.106	.056	.094

* Guarantee expired in this year.

† Repaved in this year.

‡ Part repaved in this year

Cost of Sicilian Rock Asphalt Repairs, 1900-1909.—Concluded.

STREET.	Limits.	Year Laid.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
West Broadway.....	From 196 feet east of easterly line of Dorchester avenue to A street.....	1892	\$0.213	.....	\$0.260	\$0.110	\$0.066	\$0.183	\$0.153	\$0.200	\$0.274	\$0.271
West Broadway.....	Gardner place to 150 feet easterly...	1893	.060	\$0.229	.344	.125	.122	.152	.195	.246	.440	.298
West Broadway.....	New England Bridge to E street (4- foot gutters).....	1897	.....	.....	*	.092	.121	.209	.159	.107	.154	.040
West Broadway.....	150 feet west of F street to 267 feet east of F street.....	1897	.....	.....	*	.....	.030	.112	.022	.023	.133	.049
West Broadway.....	267 feet east of F street to 44 feet west of Dorchester street.....	1898	.....	.....	.....	*	.031	.062	.019	.029	.037	.035

<i>Roxbury.</i>												
Columbus avenue....	Terry street to 61 feet north of Station street.....	1896	.....	*	\$0.167	\$0.192	\$0.104	\$0.189	†	†	.....	.....
Huntington avenue...	Easterly side of Cumberland street to Massachusetts avenue.....	1896	.....	*	.008	.013	.012	.....	.....	.....	.....	.....
Huntington avenue...	Massachusetts ave. to Gainsborough st.	1896	.....	*	.....	.013	.012	.019	\$0.003	\$0.013	\$0.038	\$0.171
Ipswich street.....	Bridge over waterway.....	1898	.....	.....	.....	*	.....	.102	.....	.....	.....	.....

* Guarantee expired in this year.

† Repaved in this year.

Cost of Seyssel Rock Asphalt Repairs, 1900-1909.

STREET.	Limits.	Year Laid.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Genesee street.....	Harrison avenue to Albany street....	1899					*	\$0 .039	\$0 .007	\$0 .016	\$0 .010	\$0 .084
Mason street.....	444 feet south of West street to Avery street.....	1899					*		.045	.097	.086	† .025
Oswego street.....	Harrison avenue to Albany street....	1899					*	.006	.008	.009	.022	.032
Paul street.....	Emerald street to Village street.	1897-99			*					.023	.077	
Paul street.....	Village street to Tremont street.	1897-99			*			.015		.028	.094	.040
Pelham street.....	Washington street to Shawmut ave..	1897			*		\$0 .091		.016	.013	.042	.078
Waterford street.....	Washington street to Shawmut ave..	1897			*		.149	.021	.089	.085	.093	.047

Other Asphalt.

STREET.	Limits.	Year. Laid.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Harris street.....	Hanover st. to North st. (coal tar)....		\$0 .051		\$0 .076		†					
I street.....	East Broadway to East Fourth st. (coal tar).....		.264		.108	\$0 .282		\$0 .180	\$0 .049	\$0 .052	\$0 .108	
Massachusetts ave...	Columbus avenue to Tremont street northerly roadway (asphaltina)....	1897			*	.092	\$0 .104	.093	.151	†		
Mt. Vernon street....	Archway under State House (Limmer rock asphalt).....	1897										

* Guarantee expired in this year.

† Repaved in this year.

‡ Part repaved in this year.

LIST OF STREETS PAVED WITH TRINIDAD ASPHALT, JANUARY 31, 1910.

City Proper.

NAME	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Albany street.....	81 feet north of Broadway, across Way street.....	108	541	1899	
Albany street.....	East Concord street to 225 feet north of Massachusetts avenue.....	446	2,676	1884	
Andrews street.....	East Dedham street to East Canton street.....	216	312	1899	
Arch street.....	Milk street to 200 feet south of Milk street.....	200	580	1907	July 27, 1917.
Arch street.....	200 feet south of Milk street to Franklin street.....	226	687	1893	
Arlington street.....	Boylston street to Beacon street.....	1,324	7,355	1901	June 16, 1911.
Ash street.....	Bennet street to Nassau street.....	232	452	1905	Oct. 5, 1915.
Avon street.....	Washington street to Chauncy street.....	428	1,061	1901	Oct. 29, 1911.
Barton court.....	Barton street to Brighton street.....	134	182	1904	Sept. 7, 1914.
Batterymarch street.....	Milk street to Liberty square.....	150	466	1896	
Beacon street.....	Charles street to southerly side of Brimmer street.....	508	2,288	1891	
Beacon street.....	Charles street, across Arlington street, southerly roadway.....		2,171	1901	June 29, 1911.
Beacon street.....	Easterly side of Dartmouth street to Hereford street.....	2,285	12,134	1909	Nov. 4, 1914.
Beacon street.....	Hereford street to Massachusetts avenue.....	698	3,728	1907	Sept. 16, 1917.
Bennet street.....	Ash street to Harrison avenue.....	248	469	1905	Aug. 18, 1915.
Berkeley street.....	Boylston street to St. James avenue.....	273	678	1902	Aug. 4, 1912.
Berkeley street.....	Easterly roadway, Boylston street to Providence street.....		329	1906	Dec. 31, 1916.
Berwick park.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917

Bond street.....	Hanson street to Milford street.....	192	426	1895	
Bosworth street.....	At Tremont street.....	13	28	1900	Dec. 2, 1910.
Boylston street.....	Tremont street, across Boylston place.....	357	1,395	1901	Oct. 9, 1911.
Boylston street.....	Charles street to Arlington street.....	868	4,792	1901	Oct. 9, 1911.
Boylston street.....	Easterly side of Berkeley street, across Clarendon street, southerly side...	656	1,285	1897	
Boylston street.....	Easterly side of Berkeley street, across Clarendon street, northerly side...	.....	1,379	1907	June 10, 1917.
Boylston street.....	Clarendon street, across Dartmouth street.....	649	2,332	1901	Oct. 23, 1911.
Brattle square.....	Brattle street to Elm street.....	281	670	1888	
Brighton street.....	Leverett street to Allen street (cobble base).....	845	1,865	1892	
Brimmer street.....	Beacon street to the center of Byron street.....	116	322	1895	
Brimmer street.....	Center of Byron street to Chestnut street.....	180	536	1906	Nov. 10, 1916.
Brimmer street.....	Chestnut street to Pinckney street.....	791	2,442	1895	
Broadway.....	Albany street to 105 feet west of Albany street.....	105	467	1899	
Bromfield street.....	At Tremont street.....	12	31	1900	Dec. 2, 1910.
Castle street.....	Castle square, easterly.....	.....	427	1899	
Cazenove street.....	Columbus avenue to 45 feet south of Columbus avenue, also intersection of Columbus avenue.....	45	134	1899	
Central street.....	Broad street to Kilby street.....	313	869	1887	
Chambers street.....	Green street, across Poplar street.....	460	1,022	1902	Oct. 25, 1912.
Chambers street.....	Brighton street, across Auburn street.....	152	337	1895	
Chambers street.....	Auburn street to Charles street (cobble base).....	120	267	1895	
Chandler street.....	At Castle square.....	.....	51	1899	
Charles street.....	Southerly side of Fruit street, across Allen street.....	709	1,706	1909	July 27, 1910.

List of Streets Paved with Trinidad Asphalt.—Continued.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Charter street.....	14 feet west of Hanover street, across Unity street (cobble base).....	304	586	1894	
Cherry street.....	Washington street to Shawmut avenue.....	334	594	1892	
Claremont park.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917.
Clark street.....	18 feet east of Hanover street to North street (cobble base).....	301	579	1892	
Columbus avenue.....	134 feet south of Ferdinand street to Boston & Albany Railroad Bridge..	912	3,570	1904	Nov. 25, 1914.
Columbus avenue.....	Boston & Albany Railroad Bridge to northerly side of Camden street....	4,083	15,742	1907	Jan. 8, 1917.
Concord square.....	At Columbus avenue (crosswalk).....	9	41	1907	Jan. 8, 1917.
Congress square.....	From Congress square to Congress street.....	209	400	1900	
Cooper street.....	North Margin street to Endicott street.....	163	504	1887	
Cooper street.....	East side of Endicott street to Washington Street North.....	241	709	1908	Sept. 16, 1918.
Court street.....	Washington street to westerly side of Old Court House.....	296	823	1904	July 6, 1914.
Court square.....	From Court street to 20 feet south on the easterly side.....	20	50	1904	July 6, 1914.
Court square.....	From 20 feet south of Court street on the easterly and southerly sides to the westerly side.....	348	1,050	1894	
Court square.....	From Court street to 291 feet on the westerly side of the Old Court House.	291	703	1904	Sept. 26, 1914.
Dartmouth street.....	Buckingham street to 127 feet south of Stuart street.....	101	280	1899	
Dartmouth street.....	Huntington avenue to Boylston street.....	234	1,890	1901	Oct. 23, 1911.
Dartmouth street.....	Boylston street to Newbury street.....	257	1,600	1894	
Dartmouth street.....	Boylston street to Newbury street (car tracks removed).....	400		1903	June 26, 1913.

Davis street.	Washington street to Harrison avenue.	323	646	1892	
Devonshire street.	Milk street to Water street.	262	786	1909	July 1, 1910.
Devonshire street.	Milk street to Franklin street.	417	1,404	1905	Oct. 19, 1915.
Dillon street.	Lenox street to Sawyer street.	218	315	1902	Nov. 28, 1912.
Doane street.	Kilby street to Broad street.	312	624	1881	
Edinboro street.	Essex street to Beach street.	470	924	1895	
Endicott street.	Cooper street, across Thacher street.	318	1,078	1899	
Exchange place.	Congress street to Kilby street.	245	708	1903	Dec. 4, 1913.
Ferdinand street.	At Castle square.	37	107	1899	
Greenwich park.	At Columbus avenue (crosswalk).	9	34	1907	Jan. 8, 1917.
Groton street.	Washington street to Shawmut avenue (block paving).	335	558	1892	
Hanover street.	Tileston street, across Charter street (west side).	315	425	1907	July 22, 1917.
Hanover avenue.	Hanover street to North street (cobble).	307	266	1892	
Harris street.	Hanover street to North street.	300	373	1904	Oct. 22, 1914.
Harrison avenue.	22 feet south of Kneeland street to 22 feet north of Harvard street.	249	885	1899	
Harrison avenue.	Asylum street, across Davis street.	158	300	1901	Aug. 24, 1911.
Harrison avenue.	Northerly side of Decatur street, across Gloucester place.	143	270	1905	Sept. 13, 1915.
Harrison avenue.	Northerly side Union Park street, across Malden street.	248	634	1903	April 2, 1913.
Harrison avenue.	East Newton street to East Springfield street.	922	2,664	1888-95	
Harrison avenue.	East Springfield street to 97 feet southerly.		140	1888	
Hawes street.	Congress street to Kilby st.	258	254	1904	Nov. 6, 1914.
Hayward place.	9 feet east of Washington street to 85 feet east of Washington street.	76	172	1906	Sept. 1, 1916.
Hayward place.	85 feet east of Washington street to Harrison avenue.	175	395	1905	Aug. 21, 1915.

List of Streets Paved with Trinidad Asphalt.—Continued.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Hollis street.....	Tremont street toward Washington street (block base).....	261	493	1891	
Holyoke street.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917.
Hudson street.....	Beach street to 90 feet north of Curve street, minus Kneeland street and Harvard street intersections.....	1,407	3,938	1891	
Huntington avenue.....	Boylston street, across Dartmouth street.....	624	5,527	1901	Oct. 23, 1911.
† Huntington avenue.....	Boston & Albany Railroad Bridge to 70 feet southerly.....	70	434	1909	Dec. 15, 1914.
Huntington avenue, westerly road-way.....	From 685 feet north of West Newton street to 38 feet north of West Newton street.....		1,831	1907	Oct. 24, 1917.
Kilby street.....	Milk street to Central street, west side.....	400	1,342	1898	
Kilby street.....	Liberty square.....		505	1881	
Kilby street.....	Central street to State street.....	240	672	1904	May 21, 1914.
Laconia street.....	Washington street to Harrison avenue.....	330	727	1896	
La Grange street.....	Tremont street, towards Washington street.....	181	355	1897	
Lincoln place.....	Worcester street to West Springfield street.....	217	313	1897	
Lynn street.....	Cooper street to Thacher street.....	294	457	1906	Aug. 21, 1916.
Malcolm street.....	54 feet south of Mt. Vernon street to Chestnut street (cobble base).....	208	156	1892	
Malden street.....	Washington street to Harrison avenue.....	531	1,534	1902	Dec. 8, 1912.
Mason street.....	Avery street to Tremont street.....	85	206	1900	Nov. 10, 1910.
Mason street.....	449 feet south of West street to 22 feet north of Avery street.....	96	200	1909	

Massachusetts avenue.....	543	1,690	1892	Columbus avenue to Tremont street, southerly roadway.....
Massachusetts avenue.....	940	2,934	1892	Tremont street to Shawmut avenue, southerly roadway.....
Massachusetts avenue.....	360	1,040	1892	Shawmut avenue to Washington street, southerly roadway.....
Moon street.....	166	306	1891	North square to Lewis street (cobble base).....
Norman street.....	398	712	1905	Green street to South Margin street.....
North Bennet street.....	557	928	1904	Hanover street to Salem street.....
Northampton street.....	370	648	1905	Washington street to Shawmut avenue.....
Northampton street.....	9	34	1907	At Columbus avenue (crosswalk).....
North Margin street.....	519	1,178	1895	Stillman street to Thacher street.....
Oxford street.....	430	735	1895	Beach street to Essex street (macadam).....
Parkman street.....	234	534	1898	North Anderson street, across Blossom street.....
Parmenter street.....	279	764	1902	Hanover street to Salem street.....
Parnell street.....	264	367	1902	Lenox street to Sawyer street.....
Pinckney street.....	271	723	1895	Charles street, across Brimmer street.....
Pine street.....	419	597	1896	Washington street to Harrison avenue.....
Pleasant street.....	55	128	1900	Bridge over Boston Elevated Railway.....
Poplar street.....	1,188	2,442	1887-92	Chambers street to Charles street (cobble base).....
Porter street.....	12	17	1900	At Pleasant street (crossing).....
† Public Alley No. 301.....	270	400	1897	Pinckney street to River street.....
† Public Alley No. 401.....	350	362	1899	Between Huntington avenue and St. Botolph street, from Irvington street to Garrison street.....
† Public Alley No. 402.....	358	374	1899	Between Huntington avenue and St. Botolph street, from Garrison street to West Newton street.....

† See note on page 237.

List of Streets Paved with Trinidad Asphalt.—Continued.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
† Public Alley No. 403.....	Between Huntington avenue and St. Botolph street, from West Newton street to Cumberland street.....	355	370	1899	
Public Alley No. 414.....	Between Beacon street and Marlborough street, from 53 feet east of Massachusetts avenue to Hereford street.....	614	574	1901	Oct. 24, 1911.
Public Alley No. 415.....	Between Beacon street and Marlborough street, from Hereford street to Gloucester street.....	398	382	1901	Oct. 12, 1911.
Public Alley No. 416.....	Between Beacon street and Marlborough street, from Gloucester street to Fairfield street.....	524	494	1901	Nov. 14, 1911.
Public Alley No. 417.....	Between Beacon street and Marlborough street, from Fairfield street to Exeter street.....	624	583	1901	Nov. 29, 1911.
† Public Alley No. 419.....	Between Beacon street and Marlborough street, from Dartmouth street to Clarendon street.....	575	511	1899	
† Public Alley No. 420.....	Between Beacon street and Marlborough street, from Clarendon street to Berkeley street.....	580	515	1897	
Public Alley No. 422.....	Between Commonwealth avenue and Marlborough street, from Arlington street to Berkeley street.....	631	589	1902	Sept. 18, 1912.
Public Alley No. 423.....	Between Commonwealth avenue and Marlborough street, from Berkeley street to Clarendon street.....	580	544	1902	Aug. 26, 1912.
Public Alley No. 424.....	Between Commonwealth avenue and Marlborough street, from Clarendon street to Dartmouth street.....	575	539	1902	April 22, 1912.
† Public Alley No. 425.....	Between Commonwealth avenue and Marlborough street, from Dartmouth street to Exeter street.....	555	493	1899	
Public Alley No. 426.....	Between Commonwealth avenue and Marlborough street, from Exeter street to Fairfield street.....	624	595	1901	Oct. 16, 1911.

	190	193	1901	Oct. 23, 1911.
Public Alley No. 428.....	Between Commonwealth avenue and Marlborough street, from Gloucester street to 205 feet east of Hereford street.....	190	193	1901
† Public Alley No. 431.....	Between Commonwealth avenue and Newbury street, from 205 feet east of Hereford street to 83 feet west of Gloucester street.....	107	95	1899
Public Alley No. 437.....	Between Commonwealth avenue and Newbury street, from Berkeley street to Arlington street.....	631	561	1898
Public Alley No. 701.....	Between Union Park street and Upton street, from 130 feet east of Tremont street to Shawmut avenue.....	521	611	1899
Rutland square.....	At Columbus avenue (crosswalk).....	9	56	1907
St. James avenue.....	At Huntington avenue.....	123	600	1901
Salutation street.....	Hanover street to Commercial street.....	355	268	1905
South Margin street.....	Staniford street, across Norman street.....	192	390	1905
Spring street.....	Poplar street to Leverett street (cobble base).....	447	908	1895
Stevens street.....	Lincoln place, towards Shawmut avenue.....	16	22	1897
Stillman street.....	Endicott street, across North Margin street (cobble base).....	170	453	1892
Stoddard street.....	Howard street to Court street (cobble base).....	135	150	1892
Sun-court street.....	North street to Moon street (cobble base).....	151	218	1891
Temple place.....	Washington street to 95 feet westerly.....	95	318	1906
† Temple place.....	95 feet west of Washington street to Tremont street.....	408	1,303	1900
Thacher street.....	Washington Street North to Endicott street.....	203	562	1892
Tileston street.....	Hanover street, across Unity street.....	412	525	1905
Tileston street.....	Unity street to Salem street.....	163	124	1895
Tremont street.....	Scollay square to 23 feet north of Beacon street.....	460	1,586	1900
Tremont street.....	21 feet south of Beacon street to Boylston street.....	2,317	8,784	1900
Tremont street.....	At Castle square.....	67	774	1899

† See note on page 237.

‡ See note on page 237.

List of Streets Paved with Trinidad Asphalt.—Continued.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Trinity place.....	St. James avenue, across Stuart street.....	391	1,130	1899	
Trinity place.....	Stuart street, across Stanhope street.....	262	349	1900	Dec. 1, 1910.
Trinity place.....	Stuart street, across Stanhope street, northerly side.....		408	1907	June 18, 1917.
Union Park street.....	Washington street to Harrison avenue.....	475	1,063	1902	Aug. 2, 1912.
Unity street.....	Charter street to Tileston street.....	330	500	1897	
Warrenton street.....	Eliot street to 380 feet south of Eliot street.....	380	1,055	1891	
Warrenton street.....	380 feet south of Eliot street to Tremont street (cobble base).....	290	730	1884	
Warrenton street.....	Shawmut avenue to Washington street (cobble base).....	468	910	1891	
Water street.....	Congress street to Kilby street.....	256	711	1902	Sept. 16, 1912.
Water street.....	Liberty square to Broad street.....	252	682	1896	
Wellington street.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917.
West street.....	At Tremont street (crosswalk).....	22	64	1900	Dec. 2, 1910.
West Canton street.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917.
West Rutland square.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917.
West Springfield street.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917.
Wiget street.....	Salem street to North Margin street.....	259	240	1897	
Wiggin street.....	Tileston street to North Bennet street.....	108	120	1905	Nov. 23, 1915.
Winter street.....	At Tremont street (crosswalk).....	17	38	1900	Dec. 2, 1910.
Worcester street.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917.
Yarmouth street.....	At Columbus avenue (crosswalk).....	9	34	1907	Jan. 8, 1917.

East Boston.

Bennington street.....	Bridge over Boston & Albany Railroad.....	60	507	1906	July 15, 1916.
* Curtis street.....	Bridge over Boston & Albany Railroad.....	41	139	1906	Nov. 21, 1916.
* Maverick street.....	Bridge over Boston & Albany Railroad.....	38	59	1907	Jan. 23, 1917.

Charlestown.

Austin street.....	Seminary place to Lawrence street.....	156	451	1891	
Bunker Hill street.....	At Tufts street.....		150	1897	
† Charlestown Bridge.....	Over Fitchburg Railroad.....	61	543	1899	
Corey street.....	124 feet north of Moulton street.....	124	276	1897	
Joiner street.....	Park street to Chelsea street.....	175	447	1906	Sept. 23, 1916.
Moulton street.....	Easterly side of Corey street to Vine street.....	81	243	1897	
Moulton street.....	Vine street to Bunker Hill street.....	130	390	1897	
Tufts street.....	Bunker Hill street to 141 feet northerly.....	141	415	1897	
Vine street.....	Bunker Hill street, across Moulton street.....	165	670	1897	

South Boston.

Bolton street.....	C street to D street.....	517	747	1905	Oct. 12, 1915.
D street.....	West Fifth street to Gold street.....	140	513	1889	
Dorchester street.....	Easterly side of Vinton street, in front of Methodist Church.....		190	1904	Oct. 18, 1914.

* See note on page 237.

† See note on page 237.

List of Streets Paved with Trinidad Asphalt.—Concluded.
South Boston.—Concluded.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
E street.....	West Third street to Bolton street.....	111	410	1892	
E street.....	West Seventh street to West Eighth street.....	325	542	1904	Oct. 24, 1914.
Rogers street.....	Dorchester street to Preble street (cobble base).....	365	496	1891	
West Sixth street.....	C street to D street.....	516	1,490	1905	Oct. 14, 1915.
West Third street.....	153 feet west of E street, across E street.....	185	699	1892	
<i>Roxbury.</i>					
Boylston street.....	St. Cecilia street to Massachusetts avenue.....	226	790	1904	Aug. 26, 1914.
Cabot street.....	Tremont street to Ruggles street.....	1,236	3,571	1891	
Cabot street.....	Easterly side of Ruggles street to Vernon street.....	723	2,988	1892	
Cabot street.....	Easterly side of Vernon street to Linden Park street.....	484	1,390	1897	
Eustis street.....	138 feet east of Winslow street to 163 feet west of Albany street.....	130	241	1906	July 31, 1916.
Palmer street.....	121 feet east of Winslow street to 201 feet west of Eustis street.....	134	297	1906	July 11, 1916.
† Public Alley No. 404.....	Between Huntington avenue and St. Botolph street, from 66 feet south of Cumberland street to Public Alley No. 405.....	534	533	1899	
† Public Alley No. 405.....	Rear of northeast side of Massachusetts avenue, from 62 feet west of St. Botolph street to 94 feet east of Huntington avenue.....	100	89	1899	
Public Alley No. 428.....	Between Commonwealth avenue and Marlborough street, from 205 feet east of Hereford street to Hereford street.....	205	186	1901	Oct. 23, 1911.

Public Alley No. 429.....	533	502	1901	Nov. 13, 1911.
† Public Alley No. 431.....	205	182	1899	
Ruggles street.....	1,055	3,082	1907	Aug. 23, 1917.
Roxbury street.....	170	895	1904	Aug. 12, 1914.
Vernon street.....	693	1,785	1907	Nov. 30, 1917.
Washington street.....	.....	210	1904	Aug. 12, 1914.

NOTE.—Trinidad asphalt marked thus: * Guaranteed by E. R. Taylor Company; † Simpson Brothers; ‡ United States Paving Company. Other guar-
antees are by the Barber Asphalt Company. Unless otherwise marked all asphalt is on a cement concrete base.

Trinidad Asphalt.
Summary.

District.	Under Guarantee.		Not Under Guarantee.		District Totals.	
	Length. Feet.	Area. Sq. Yds.	Length. Feet.	Area. Sq. Yds.	Length. Feet.	Area. Sq. Yds.
City Proper.....	32,058	107,880	26,816	63,094	58,874	170,974
East Boston.....	139	705	.....	.....	139	705
Charlestown.....	175	447	258	3,138	1,033	3,585
South Boston.....	1,358	2,969	801	2,118	2,159	5,087
Roxbury.....	3,146	7,988	3,282	8,753	6,428	16,741
Totals.....	33,876	119,989	31,757	77,103	68,633	197,092

LIST OF STREETS PAVED WITH SICILIAN ROCK ASPHALT, JANUARY 31, 1910.

City Proper.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Acton street.....	Washington street to Bradford street.....	259	352	1896	
Arch street.....	Summer street to Franklin street.....	403	1,522	1901	Oct. 12, 1911.
Avery street.....	79 feet west of Haymarket place to Mason street.....	68	60	1897	
Barton street.....	Leverett street to Milton street.....	403	683	1895	
Beacon street.....	Arlington street to Dartmouth street.....	1,862	9,965	1901	June 14, 1911.
Boylston street.....	Easterly side of Arlington street to Berkeley street.....	681	2,508	1900	Nov. 28, 1910.
Bradford street.....	Waltham street to Shawmut avenue.....	600	1,270	1897	
Charter street.....	Hanover street 14 feet westerly.....	14	50	1896	
Clark street.....	Hanover street 18 feet easterly.....	18	35	1896	
Cobb street.....	Washington street to Shawmut avenue.....	347	1,041	1897	
Decatur street.....	Washington street to Harrison avenue.....	370	781	1892	
Dwight street.....	Shawmut avenue to Tremont street.....	716	2,075	1893	
East Concord street.....	From Albany street 12 feet westerly.....	12	45	1897	
Essex place.....	Tufts street to Essex street.....	202	348	1901	Oct. 3, 1911.
Exeter place.....	Chauncy street to Harrison avenue.....	170	387	1897	
Fabin street.....	Newland street to Ivanhoe street.....	421	615	1895	
Fay street.....	Dover street to Harrison avenue (cobble base).....	318	560	1894	
Hamburg street.....	Mystic street to Harrison avenue.....	383	597	1896	

	1896	1893	May 29, 1913.
Hanover street.....	323	1,090	
Harrison avenue.....	427	1,090	
Huntington avenue.....	1,520	6,635	
India street.....	565	2,135	Nov. 9, 1911.
Kingston street.....	492	1,859	
Marlborough street.....	1,251	5,004	Aug. 8, 1911.
Mason street.....	209	459	Aug. 15, 1911.
Massachusetts avenue.....	688	2,030	
Massachusetts avenue.....	636	1,908	
Massachusetts avenue.....	326	1,557	Nov. 20, 1911.
Mayo street.....	251	418	
Meander street.....	307	437	
Morton street.....	325	253	Dec. 16, 1911.
Motte street.....	332	516	
Mystic street.....	204	226	
Mystic street.....	215	335	
Mystic street.....	216	337	
Newland street.....	336	486	Oct. 15, 1912.
North Margin street.....	205	518	
Norwich street.....	221	339	
Ohio street.....	343	277	
Otter street.....	168	523	Sept. 19, 1911.
Pemberton square.....	323	1,365	
Tileston street, across Charter street (east side).....			
Northampton street to Lenox street.....			
70 feet southerly of Boston & Albany Railroad Bridge to Cumberland st.....			
Milk street to India street (formerly India square).....			
Beach street to Essex street.....			
Arlington street to Clarendon street.....			
West street to 213 feet south of West street.....			
Washington street to Harrison avenue, southerly roadway.....			
Harrison avenue to Albany street, southerly roadway.....			
27 feet south of Marlborough street to Beacon street.....			
Castle street to Cobb street.....			
East Dedham street to Malden street.....			
Salem street to Endicott street.....			
Washington street to Harrison avenue.....			
Malden street to East Dedham street.....			
East Canton street to East Canton street.....			
East Canton street to East Brookline street.....			
West Brookline street to West Newton street.....			
Thacher street toward Endicott street.....			
Mystic street to Meander street.....			
Washington street to Shawmut avenue.....			
Beacon street to 168 feet north of Beacon street.....			
Front of Suffolk County Courthouse.....			

List of Streets Paved with Sicilian Rock Asphalt.—Continued.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Prince street.....	Hanover street to 293 feet west of Hanover street.....	293	654	1895	
* Prince street.....	293 feet west of Hanover street to Salem street.....	213	497	1900	Dec. 7, 1910.
Public Alley No. 12.....	Poplar street to Public Alley No. 14.....	77	68	1903	Sept. 22, 1913.
Public Alley No. 434.....	Between Commonwealth avenue and Newbury street, from Exeter street to Dartmouth street.....	555	483	1901	Oct. 29, 1911.
Public Alley No. 436.....	Between Commonwealth avenue and Newbury street, from Clarendon street to Berkeley street.....	580	544	1901	Oct. 19, 1911.
Public Alley No. 438.....	Between Newbury and Boylston streets, from Arlington street to Berkeley street.....	631	589	1901	Oct. 22, 1911.
Public Alley No. 440.....	Between Newbury and Boylston streets, from Dartmouth street to Exeter street.....	555	529	1901	Nov. 5, 1911.
Public Alley No. 441.....	Between Newbury and Boylston streets, from Exeter street to Fairfield street.....	622	553	1903	May 25, 1913.
Public Alley No. 442.....	Between Newbury and Boylston streets, from 59 feet west of Fairfield street to 110 feet east of Gloucester street.....	351	312	1901	Nov. 29, 1911.
Salem street.....	Endicott street, across Prince street.....	1,142	2,235	1901	Nov. 22, 1911.
Shawmut avenue.....	132 feet south of Castle street, across Cherry street.....	327	945	1898	
Stoughton street.....	At Albany street.....	12	45	1897	
Taylor street.....	Dwight street to Milford street.....	196	274	1896	
Tufts street.....	Kingston street to South street.....	485	985	1901	Sept. 13, 1911.
Tyler street.....	Oak street to Harvard street.....	530	1,413	1901	Nov. 1, 1911.
Whitmore street.....	Kneeland street to Harvard street.....	249	445	1895	

East Boston.

* Meridian street.....	Trenton street to Eutaw street.....	235	600	1900	Dec. 3, 1910.
------------------------	-------------------------------------	-----	-----	------	---------------

Charlestown.

* Lawrence street.....	East side of Lawrence avenue, across Miller street.....	385	1,014	1901	Nov. 18, 1911.
* Miller street.....	Main street to Lawrence street.....	203	383	1901	Nov. 18, 1911.
Warren street.....	Winthrop street, across Soley street.....	128	302	1901	Aug. 22, 1911.

South Boston.

Athens street.....	West Second street to A street (bituminous concrete).....	636	954	1895	
Athens street.....	B street to C street.....	520	751	1892	
* Athens street.....	C street to D street.....	519	750	1901	Aug. 16, 1911.
B street.....	At West Broadway (northerly side).....	11	39	1897	
B street.....	At West Broadway (southerly side).....	10	36	1897	
* Bowen street.....	C street to D street.....	519	750	1901	Oct. 30, 1911.
* Bowen street.....	D street to E street.....	523	755	1901	Oct. 30, 1911.
C street.....	At West Broadway (northerly side).....	11	40	1897	
D street.....	At West Broadway (southerly side).....	10	38	1897	
D street.....	At West Broadway (northerly side).....	11	41	1897	
East Broadway.....	Front of Lincoln School.....	180	644	1897	
* Gold street.....	B street to C street.....	524	747	1901	Oct. 10, 1911.
* Gold street.....	C street to D street.....	521	753	1901	Oct. 10, 1911.
K street.....	East Sixth street to East Eighth street.....	566	1,083	1896	

* See note on page 243.

List of Streets Paved with Sicilian Rock Asphalt.—*Concluded.**South Boston.—Concluded.*

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
* Silver street.....	B street to C street.....	522	754	1901	Aug. 7, 1911.
* Silver street.....	C street to D street.....	520	751	1901	Aug. 7, 1911.
* Tudor street.....	C street to D street.....	515	744	1901	Oct. 12, 1911.
West Broadway.....	From 196 feet east of easterly line of Dorchester avenue to A street.....	352	1,278	1892	
West Broadway.....	New England Railroad Bridge, across Gardner place (4-foot gutter).....	.....	341	1897	
West Broadway.....	Gardner place to 150 feet easterly.....	150	648	1893	
West Broadway.....	150 feet east of Gardner place to E street (4-foot gutter).....	.....	1,109	1897	
West Broadway.....	150 feet west of F street to 267 feet east of F street.....	448	1,544	1897	
West Broadway.....	267 feet east of F street to 28 feet west of Dorchester street.....	410	1,818	1898	

Roxbury.

Commonwealth avenue.....	Easterly side of Massachusetts avenue to westerly side of Massachusetts avenue.....	43	936	1901	Nov. 20, 1911.
Dudley street.....	Easterly side, between Dunmore street and Magazine street.....	.....	350	1902	Nov. 1, 1912.
Falmouth street.....	At Massachusetts avenue (crosswalk).....	6	25	1901	Nov. 20, 1911.
Huntington avenue.....	Northerly side of Cumberland street to Massachusetts avenue.....	747	4,150	1896	
Huntington avenue.....	Massachusetts avenue to Gainsborough street.....	587	3,372	1896	
Ipswich street.....	Bridge over waterway.....	61	267	1898	
Massachusetts avenue.....	Huntington avenue to south side of Commonwealth avenue.....	2,148	10,159	1901	Nov. 20, 1911.

Massachusetts avenue.....	North side of Commonwealth avenue to 27 feet south of Marlborough street.	253	1,195	1901	Nov. 20, 1911.
Public Alley No. 901.....	Hemenway to Hemenway street, between Hemenway street and the Fenway.....	573	550	1902	Nov. 6, 1912.

Brighton.

Brooks street.....	Bridge (over center roadway).....	.....	130	1902	May 17, 1912.
Commonwealth avenue.....	Cottage Farm Bridge (over Boston & Albany Railroad).	140	1,556	1896	

NOTE.—Sicilian rock asphalt marked * guaranteed by Jones & Meehan. Sicilian rock asphalt having guarantee and not otherwise designated is guaranteed by the Boston Asphalt Company. All Sicilian rock asphalt not otherwise marked is laid on a cement concrete base.

Sicilian Rock Asphalt.*Summary.*

DISTRICT.	UNDER GUARANTEE.		NOT UNDER GUARANTEE.		DISTRICT TOTALS.	
	Length. <i>Feet.</i>	Area. <i>Sq. Yds.</i>	Length. <i>Feet.</i>	Area. <i>Sq. Yds.</i>	Length. <i>Feet.</i>	Area. <i>Sq. Yds.</i>
City Proper.....	12,496	34,058	11,129	28,437	26,625	62,495
East Boston.....	235	600	.....	.....	235	600
Charlestown.....	716	1,699	.....	.....	716	1,699
South Boston.....	4,163	6,004	3,315	10,364	7,478	16,368
Roxbury.....	3,023	13,215	1,395	7,789	4,418	21,004
Brighton.....	.....	130	140	1,556	140	1,686
Totals.....	20,633	55,706	15,979	48,146	36,612	103,852

LIST OF STREETS PAVED WITH SEYSSSEL ROCK ASPHALT, JANUARY 31, 1910.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Genesee street	Harrison avenue to Albany street	505	1,122	1899	
Mason street	22 feet north of Avery street to Avery street	22	55	1899	
Milton street	Brighton street to Spring street	308	274	1899	
Oswego street	Harrison avenue to Albany street	506	1,068	1899	
Paul street	Emerald street to Village street	133	236	1897	
Paul street	Village street to Tremont street	276	456	1897-99	
Pelham street	Washington street to Shawmut avenue	320	693	1897	
Public Alley No. 102	23 feet south of Marshall street to Creek square	182	184	1899	
Public Alley No. 702	Worcester street to West Springfield street	222	222	1899	
Public Alley No. 703	Newland street to Public Alley No. 702	116	103	1899	
Waterford street	Washington street to Shawmut avenue	316	544	1897	

NOTE.—Seysssel rock asphalt guaranteed by Jones & Meehan. All Seysssel rock asphalt is laid on a cement concrete base.

LIST OF STREETS PAVED WITH BERMUDEZ ASPHALT, JANUARY 31, 1910.

City Proper.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Camden street.....	At Columbus avenue (crosswalk) east and west.....	18	68	1907	Jan. 4, 1917.
Columbus avenue.....	Northerly side of Camden street to 301 feet south of Camden street.....	335	1,340	1907	Jan. 4, 1917.

Roxbury.

Benton street.....	At Columbus avenue (crosswalk).....	27	69	1907	Jan. 4, 1917.
Burke street.....	At Columbus avenue (crosswalk).....	26	66	1907	Jan. 4, 1917.
Columbus avenue.....	301 feet south of Camden street to 67 feet north of Station street.....	3,511	14,239	1907	Jan. 4, 1917.
Cunard street.....	At Columbus avenue (crosswalk).....	16	60	1907	Jan. 4, 1917.
Davenport street.....	At Columbus avenue (crosswalk).....	26	66	1907	Jan. 4, 1917.
Riverside street.....	At Columbus avenue (crosswalk).....	9	21	1907	Jan. 4, 1917.
Sarsfield street.....	At Columbus avenue (crosswalk).....	18	40	1907	Jan. 4, 1917.
Walpole street.....	At Columbus avenue (crosswalk) east and west.....	18	46	1907	Jan. 4, 1917.
Weston street.....	At Columbus avenue (crosswalk).....	9	20	1907	Jan. 4, 1917.
Whittier street.....	At Columbus avenue (crosswalk).....	5	25	1907	Jan. 4, 1917.

NOTE.— Bermudez asphalt guaranteed by the Boston Asphalt Company. All Bermudez asphalt is laid on a cement concrete base.

LIST OF STREETS PAVED WITH ACME ASPHALT, JANUARY 31, 1910.

City Proper.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Ash street.....	Nassau street to Oak street.....	216	379	1909	July 24, 1914.
Corning street.....	Shawmut avenue to Washington street.....	338	734	1908	Nov. 25, 1918.
Harrison avenue.....	Malden street, across East Dedham street.....	382	918	1909	Oct. 16, 1914.
Kirkland street.....	Pleasant street to Corning street.....	394	566	1909	Sept. 30, 1914.
Nassau street.....	At Ash street (crosswalk).....	7	15	1909	July 24, 1914.
Wheeler street.....	Shawmut avenue to Corning street.....	379	645	1909	Oct. 1, 1914.

East Boston.

* Porter street.....	Bridge over Boston & Albany Railroad.....	37	128	1907	Oct. 19, 1917.
* Prescott street.....	Bridge over Boston & Albany Railroad.....	36	125	1907	Oct. 19, 1917.
* Saratoga street.....	Bridge over Boston & Albany Railroad.....	95	180	1907	Sept. 16, 1917.

Roxbury.

Massachusetts avenue.....	Boylston street to Newbury street.....	188	710	1909	May 24, 1914.
---------------------------	--	-----	-----	------	---------------

NOTE.—Acme asphalt marked thus * guaranteed by W. A. Murtfeldt Company, otherwise by the Warren Brothers Company.
All Acme asphalt laid on a cement concrete base.

LIST OF STREETS PAVED WITH AMERICAN ROCK ASPHALT, JANUARY 31, 1910.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Batterymarch street (City Proper).	Milk street to 93 feet west of Atlantic avenue (block paving).....	213	680	1909	May 21, 1914.
Beacon street (City Proper).....	Northerly side of Brimmer street, across Arlington street.....	358	1,486	1908	July 3, 1918.
K street (South Boston).....	East Fourth street, across East Sixth street.....	600	2,113	1906	Sept. 14, 1916.
Kilby street (City Proper).....	East side from Milk street, across Central street.....	.....	1,540	1908	Aug. 31, 1918.

NOTE.—American rock asphalt guaranteed by Jones & Meehan. Unless otherwise marked all American rock asphalt is laid on a cement concrete base.

LIST OF STREETS PAVED WITH LIMMER ROCK ASPHALT.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Mt. Vernon street (City Proper)...	Archway under State House.....	164	455	1897	June 25, 1918.
Summer street (East Boston).....	Bridge over Boston & Albany Railroad.....	38	187	1908	

NOTE.—Limmer rock asphalt guaranteed by W. A. Murtfeldt Company. All Limmer rock asphalt is laid on a cement concrete base.

LIST OF STREETS PAVED WITH COAL TAR COMPOSITION.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Ashburton place (City Proper)	55 feet east of Bowdoin street to Bowdoin street	55	128	1908	
I street (South Boston)	East Broadway to East Fourth street	272	1,027	1889	
Ivanhoe street (City Proper)	West Dedham street to West Canton street	216	312	1906	
Malcolm street (City Proper)	Mt. Vernon street to 54 feet south of Mt. Vernon street	54	46	1908	

Summary of all Asphalts.

KIND.	UNDER GUARANTEE.		NOT UNDER GUARANTEE.		TOTALS.	
	Length. Feet.	Area. Sq. Yds.	Length. Feet.	Area. Sq. Yds.	Length. Feet.	Area. Sq. Yds.
						Miles.
Trinidad	36,876	119,989	31,757	77,103	68,633	13.00
Sicilian rock	20,633	55,706	15,979	48,146	36,612	6.94
Seyssel rock			2,906	4,957	2,906	.55
Bermudez	4,013	16,060			4,018	.76
Acme	2,072	4,400			2,072	.39
American rock	1,171	5,819			1,171	.22
Limmer rock	38	187	164	455	202	.04
Coal tar			272	1,027	272	.05
Totals	64,808	202,161	51,078	131,688	115,886	333,849
						21.95

LIST OF STREETS PAVED WITH BITULITHIC, JANUARY 31, 1910.
City Proper.

STREET DEPARTMENT — HIGHWAY DIVISION.

249

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Gaurantee Expires.
Albany street.....	Northerly side of Stoughton street, across East Concord street (laid on existing concrete base).....	309	1,854	1905	Dec. 2, 1915.
Albany street.....	225 feet north of Massachusetts avenue to Massachusetts avenue.....	225	1,350	1905	Nov. 3, 1915.
Allen street.....	Charles street to Chambers street.....	1,297	3,556	1905	Sept. 9, 1915.
Ashburton place.....	Somerset street to 55 feet east of Bowdoin street.....	285	682	1904	Aug. 17, 1914.
Belvidere street.....	West Newton street to 195 feet west of Falmouth street.....	317	1,116	1903	April 25, 1913.
Berkeley street.....	Boylston street to Commonwealth avenue.....	582	2,587	1903	May 22, 1913.
Berkeley street.....	Commonwealth avenue to Marlborough street.....	280	1,245	1903	May 22, 1913.
Berkeley street.....	Marlborough street to Beacon street.....	264	1,173	1903	May 22, 1913.
Berkeley street.....	Tremont street to Columbus avenue.....	1,195	4,663	1906	Dec. 14, 1916.
Bowdoin street.....	Ashburton place to Cambridge street.....	854	2,259	1902	Oct. 23, 1912.
Boylston street.....	Dartmouth street to 205 feet east of Hereford street.....	1,999	7,152	1904	Nov. 18, 1914.
Clarendon street.....	Boylston street to Commonwealth avenue.....	582	2,336	1905	Aug. 21, 1915.
Clarendon street.....	Commonwealth avenue to Beacon street.....	580	2,320	1905	Aug. 21, 1915.
Dartmouth street.....	Southerly side of Newbury street to Commonwealth avenue.....	326	2,536	1903	July 13, 1913.
Dartmouth street.....	Commonwealth avenue to Beacon street.....	579	4,503	1903	July 13, 1913.
Derne street.....	At Hancock street (crosswalk).....	5	30	1902	Nov. 15, 1912.
Emerald street.....	Castle street to Dover street.....	912	2,639	1904	July 27, 1914.
Florence street.....	Washington street to Harrison avenue.....	352	704	1906	Sept. 8, 1916.

List of Streets Paved with Bitulithic.—Continued.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Garden Court street.....	North square to Fleet street.....	233	377	1906	Oct. 23, 1916.
Hancock street.....	Mt. Vernon street to Myrtle street.....	317	816	1902	July 17, 1912.
Hancock street.....	Myrtle street to Cambridge street.....	646	1,702	1902	Nov. 15, 1912.
Harrison avenue.....	North side of East Springfield street to Northampton street.....	508	1,174	1905	Nov. 24, 1915.
Huntington avenue.....	9 feet south of Dartmouth street to bridge over B. & A. R. R.....	696	3,941	1906	Sept. 15, 1916.
Mason street.....	213 feet south of West street to 449 feet south of West street.....	236	480	1907	June 1, 1917.
Massachusetts avenue.....	Southerly side of Beacon street to Harvard Bridge.....	237	1,080	1902	Nov. 22, 1912.
Massachusetts avenue.....	Columbus avenue to Providence Division, N. Y., N. H. & H. R. R.....	469	2,248	1903	Aug. 11, 1913.
Massachusetts avenue.....	Columbus avenue to Tremont street (northerly roadway), laid on existing concrete base.....	.....	1,689	1907	June 13, 1917.
McLean street.....	Chambers street to Blossom street.....	518	1,345	1905	July 20, 1915.
Moon street.....	Lewis street to Fleet street.....	107	203	1906	Oct. 13, 1916.
North square.....	North street to Moon street.....	239	1,250	1906	Dec. 24, 1916.
Oneida street.....	Harrison avenue to Albany street.....	508	1,072	1903	Aug. 22, 1913.
Prince street.....	Garden Court street to Hanover street.....	134	223	1906	Oct. 23, 1916.
Tyler street.....	Beach street to Kneeland street.....	320	853	1905	Oct. 23, 1915.
Tyler street.....	Kneeland street to Harvard street.....	332	885	1905	Oct. 23, 1915.
Tyler street.....	Oak street to Curve street.....	441	1,187	1905	Oct. 23, 1915.
West Newton street.....	Columbus avenue to Huntington avenue.....	1,044	3,944	1903	July 3, 1913.
West Newton street.....	Huntington avenue across Belvidere street.....	262	990	1903	April 25, 1913.
West Newton street.....	Tremont street to Columbus avenue.....	790	3,196	1904	Aug. 13, 1914.

East Boston.

Maverick street.....	London street to Havre street.....	180	620	1903	June 2, 1913.
----------------------	------------------------------------	-----	-----	------	---------------

South Boston.

Bowen street.....	E street to F street.....	515	744	1903	May 22, 1913.
Dorchester street.....	Broadway to Eighth street (minus intersection at Fourth street, Fifth street and Eighth street).....	1,324	5,865	1905	Sept. 20, 1915.
E street.....	South side of West Fourth street to West Broadway.....	333	1,221	1903	June 2, 1913.
G street.....	110 feet north of East Sixth street to 178 feet north of East Seventh street..	230	828	1905	July 3, 1915.
Silver street.....	A street to B street.....	500	750	1903	June 4, 1913.
Silver street.....	225 feet west of E street to E street.....	225	325	1903	June 2, 1913.
Thomas park.....	Around Telegraph hill.....	2,056	7,042	1905	July 3, 1915.
West Broadway.....	Intersection at Dorchester street.....	87	250	1905	Sept. 20, 1915.
West Fourth street.....	E street to 207 feet west of E street.....	207	759	1903	June 2, 1913.

Roxbury.

Albany street.....	Hampden street to Eustis street.....	1,613	4,900	1907	Aug. 3, 1917.
Belvidere street.....	Massachusetts avenue to 195 feet west of Falmouth street.....	1,021	2,949	1903	April 25, 1913.
Blue Hill avenue.....	Dewey street to north side of Savin street.....	598	1,528	1906	Nov. 16, 1916.
Blue Hill avenue.....	Brunswick street to northerly side of Devon street.....	199	509	1906	Dec. 7, 1916.
Boylston street.....	205 feet east of Hereford street to 8 feet east of Hereford street.....	197	677	1904	Nov. 18, 1914.
Boylston street.....	Massachusetts avenue to westerly line of Hemenway street.....	390	1,414	1905	Sept. 2, 1915.
Dacia street.....	Northerly side of Woodcliff street, across Dove street.....	290	838	1906	Oct. 2, 1916.
Dearborn street.....	At Albany street.....	56	220	1907	Aug. 3, 1917.

List of Streets Paved with Bitulithic.—Concluded.
Roxbury.—Concluded.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Gainsborough street.....	Huntington avenue to Providence Division, N. Y., N. H. & H. R. R.,	550	2,078	1903	July 17, 1913.
Massachusetts avenue.....	Providence Division, N. Y., N. H. & H. R. R., to Huntington avenue.....	561	2,150	1903	Aug. 11, 1913.
Roxbury street.....	Shawmut avenue to Kent street.....	557	2,160	1904	Sept. 21, 1914.
St. Alphonsus street.....	Tremont street to northerly side of Smith street.....	524	1,514	1905	Sept. 9, 1915.
Smith street.....	St. Alphonsus street to Phillips street.....	585	1,690	1904	July 9, 1914.
Tremont street.....	St. Alphonsus street to Phillips street.....	587	1,854	1902	Dec. 11, 1912.
Woodcliff street.....	Dacia street to Blue Hill avenue.....	309	893	1906	Oct. 2, 1916.

NOTE.—Bitulithic is guaranteed by Warren Brothers Company.

Summary of Bitulithic.

DISTRICT.	Length. Feet.	Area. Square Yards.
City Proper.....	18,980	71,360
East Boston.....	180	620
South Boston.....	5,477	17,784
Roxbury.....	8,037	25,374
Totals.....	32,674	115,138

LIST OF STREETS PAVED WITH WOOD BLOCKS, JANUARY 31, 1910.
City Proper.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Atlantic avenue.....	811 feet south of Kneeland street to 1,263 feet south of Kneeland street (bridge).....	452	1,996	1906	
Avery street.....	At Washington street (crossing).....	12	8	1906	Nov. 23, 1916.
Avon street.....	At Washington street (crossing).....	9	20	1906	Nov. 23, 1916.
Beacon street.....	Massachusetts avenue to Raleigh street.....	1,527	8,145	1901	Oct. 7, 1911.
Boylston street.....	Boylston place across Charles street.....	433	1,890	1901	
Charles street.....	At Boylston street.....	30	243	1901	
Church street.....	Boylston street to Providence street.....	153	542	1908	Nov. 9, 1918.
† Court street.....	At Washington street (crossing).....	9	27	1908	Nov. 21, 1918.
† Court avenue.....	At Washington street (crossing).....	7	8	1908	Nov. 21, 1918.
† Cornhill court.....	At Washington street (crossing).....	9	8	1908	Nov. 21, 1918.
Eliot street.....	East side Pleasant street to Columbus avenue.....	163	800	1907	Nov. 30, 1917.
Harvard Bridge.....	Southerly abutment to center of draw (plank base).....	978	5,542	1901	Dec. 1, 1911.
Hayward place.....	Washington street to 9 feet easterly (crossing).....	9	20	1906	Nov. 23, 1916.
Mason street.....	At West street (crossing).....	6	14	1908	Sept. 19, 1918.
Newbury street.....	Fairfield street to 205 feet east of Hereford street.....	750	3,000	1901	Nov. 2, 1911.
Park square.....	Boylston street to south side of Eliot street.....	482	4,100	1907	Nov. 30, 1917.
Pleasant street.....	Eliot street to Park square.....	93	425	1907	Nov. 30, 1917.

List of Streets Paved with Wood Blocks.—*Concluded.*

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Providence street.....	134 feet east of Church street to Park square.....	141	725	1907	Nov. 30, 1917.
Providence street.....	134 feet east of Church street, across Church street.....	165	512	1908	Nov. 10, 1918.
* Public Alley No. 442.....	Between Newbury street and Boylston street, from Gloucester street to 110 feet east of Gloucester street.....	110	98	1901	Nov. 29, 1911.
† State street.....	Washington street to Devonshire street.....	115	530	1908	Dec. 4, 1918.
Summer street.....	Washington street to Hawley street.....	234	990	1908	Oct. 17, 1918.
Tremont street.....	23 feet north of Beacon street to 21 feet south of Beacon street.....	65	231	1900	Dec. 2, 1910.
Tremont street.....	18 feet north of Park street to southerly street line of Temple place (on the westerly side).....	.....	1,064	1900	Dec. 2, 1910.
Washington street.....	Milk street to Beach street.....	2,279	8,660	1906	Nov. 23, 1916.
† Washington street.....	Cornhill to 78 feet south of Court avenue.....	509	1,475	1908	Nov. 21, 1918.
Washington street.....	South side Milk street to 78 feet south of Court avenue.....	538	1,860	1907	June 26, 1917.
Water street.....	Devonshire street to Congress street.....	213	956	1907	July 12, 1917.
West street.....	Washington street to Tremont street.....	463	1,126	1908	Sept. 19, 1918.
<i>Roxbury.</i>					
Falmouth street.....	Norway street to Massachusetts avenue.....	634	2,433	1909	July 31, 1914.
Massachusetts avenue.....	Bridge over Boston & Albany Railroad.....	75	500	1908	
Newbury street.....	205 feet east of Hereford street to Hereford street.....	205	820	1901	Nov. 12, 1911.

‡ Newbury street.....	Easterly side of Hereford street to Massachusetts avenue.....	705	2,820	1903	Oct. 7, 1913.
Norway street.....	Falmouth street to St. Paul street.....	307	917	1909	Aug. 28, 1914.
St. Paul street.....	Falmouth street to Norway street.....	299	777	1909	Aug. 23, 1914.

Dorchester.

Bowdoin street.....	East side of Quincy street to 78 feet west of Mt. Ida road.....	386	1,885	1909	Sept. 11, 1914.
Washington street.....	Moultrie street to Centre street.....	182	850	1907	Aug. 15, 1917.

NOTE.—Wooden block pavement not otherwise marked is guaranteed by the United States Wood Preserving Company. Marked thus * is guaranteed by Boston Asphalt Company; thus † is guaranteed by James Doherty; thus ‡ is guaranteed by Patrick McGovern. All wooden block pavements are of cement concrete base unless otherwise marked.

Summary of Wood Block.

District.	Length, <i>Feet.</i>	Area, <i>Sq. Yds.</i>
City Proper.....	9,954	44,815
Roxbury.....	2,225	8,267
Dorchester.....	568	2,735
Totals.....	12,747	55,817

LIST OF STREETS WITH CEMENT PAVEMENT, JANUARY 31, 1910.

NAME.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
* Main street (Charlestown).....	Bridge over Boston & Maine Railroad to Somerville line.....	139	672	1906	Dec. 8, 1911.
* Rochester street (City Proper)...	Harrison avenue to Albany street.....	508	1,129	1907	Nov. 23, 1912.
† Zeigler street (Roxbury).....	Washington street to Warren street.....	315	946	1908	Nov. 18, 1913.

Cement pavement marked thus * guaranteed by Simpson Brothers Corporation; thus † guaranteed by R. S. Blome Company.

LIST OF STREETS WITH BRICK BLOCK PAVEMENT HAVING A MAINTENANCE GUARANTEE, JANUARY 31, 1910.

Street.	Limits.	Length in Feet.	Area, Square Yards.	Year Laid.	Guarantee Expires.
Derne street (City Proper).....	Temple street to Hancock street.....	205	610	1909	Nov. 30, 1914.
Downing street (Roxbury).....	Whittier street to Vernon street.....	323	750	1909	Dec. 21, 1914.
Hampshire street (Roxbury).....	Ruggles street to Whittier street.....	362	1,050	1909	Dec. 21, 1914.
Hampshire street (Roxbury).....	Whittier street to Vernon street.....	364	1,055	1909	Dec. 21, 1914.
Hampshire street (Roxbury).....	Vernon street to Linden Park street.....	645	1,864	1909	Dec. 21, 1914.
* Huntington avenue (City Proper)	Bridge over Boston & Albany Railroad.....	92	767	1909	Dec. 15, 1914.
Linden Park street (Roxbury).....	Easterly side of Cabot street to Elmwood street.....	1,015	3,242	1909	Dec. 21, 1914.
Ruggles street (Roxbury).....	Cabot street to Tremont street.....	460	1,874	1909	Dec. 21, 1914.

Simmons street (Roxbury)	645	1,434	1909	Dec. 21, 1914.
Vernon street (Roxbury)	800	2,533	1909	Dec. 21, 1914.
Whittier street (Roxbury)	637	1,877	1909	Dec. 21, 1914.
Whittier street (Roxbury)	208	786	1909	Dec. 21, 1914.

NOTE.—Brick block pavement is laid on a cement concrete base. Brick block pavement not otherwise marked is guaranteed by John E. Burns & Co., marked thus * is guaranteed by Simpson Brothers.

Summary of all Smooth Pavements.

KIND.	Length. <i>Feet.</i>	Length. <i>Miles.</i>	Area. <i>Sq. Yds.</i>
Asphalt	115,886	21.95	333,849
Bitulithic	32,674	6.19	115,138
Wood Block	12,747	2.41	55,817
Cement	962	.18	2,747
* Brick	5,756	1.09	17,842
Totals	168,025	31.82	525,393

* NOTE.—This table contains brick pavement under guarantee only.

PROPERTY IN CHARGE OF THE HIGHWAY
DIVISION (PAVING SERVICE).

South Boston.

Columbia road, corner H street, stable, carriage house, shed, tool house and office, built by the city on land containing 12,017 square feet, rented from William H. Hart.

Columbia road, corner of Hamlin street, lot of land used for storage purposes, containing 6,710 square feet, rented from Charles P. Mooney, agent.

East Boston.

Chelsea street, Nos. 492 and 494, wharf property, containing 118,584 square feet (L 3,117), purchased in 1897 from Francis S. Lally. This property is at present not in use.

East Eagle street, corner Glendon street, sheds, stable and office building, erected by the city on wharf property containing 326,700 square feet, leased in 1900 from Blodgett & Whidden for a term of ten years. This property is used jointly with the Sewer, Sanitary and Street Cleaning and Watering Divisions.

Charlestown.

Medford street, foot of Elm street, wharf property, containing 44,194 square feet (Sur. Prog. 968), owned by the city. Upon this lot are a shed, stable and office building.

Brighton.

Union street, opposite Shepard street, lot of land containing 37,000 square feet, owned by the city. This lot is at present not in use.

Chestnut Hill avenue, ledge lot containing 569,776 square feet (L 1,630), purchased in 1882 by the city. Upon this lot are stone crusher, stable, shed and office building.

West Roxbury.

Child street, lot of land containing 43,024 square feet, owned by the city. Upon this lot are sheds, stable and office building.

Mt. Vernon street, near Pleasant street, lot of land, containing 16,275 square feet, belonging to the Schoolhouse Commission. Upon this lot is a stable and office building.

Morton street, near Canterbury street, lot of land containing 14,484 square feet, owned by the city and used for storage purposes.

Rosemary street, lot of land used for storage purposes, containing 3,780 square feet, rented from Edward Cook.

Dorchester.

Hancock street, opposite Bowdoin street, lot of land known as the almshouse lot, containing 104,132 square feet, which belonged to the town of Dorchester at the time of annexation. Upon this land are two stables, office, shed and tool house.

Downer avenue, lot of land containing 35,300 square feet, was purchased in 1871 to protect the almshouse lot.

Codman street, ledge lot containing 299,000 square feet, was purchased in 1870. Upon this lot is a shed containing steam engine and stone crusher, also a stable and tool house — 111,423 square feet additional bought in 1907 by the city.

Brush Hill road, Milton, lot of land containing 64,523 square feet, leased May 13, 1843, by the town of Dorchester for a term of 999 years. Lot of land adjoining above, containing 30,000 square feet, owned by the City of Boston. These lots are not now in use.

Magnolia street, near Bird street, lot of land containing 81,068 square feet, was purchased by the town of Dorchester in 1867. This lot is not now in use.

Roxbury.

Highland street, lot of land containing about 72,000 square feet owned by the city. Upon this lot is a large brick stable erected in 1873-74 and used by the Sanitary and Paving Divisions; also a brick building used as a blacksmith shop and a shed for storage purposes.

Washington street, corner Dimock street, lot containing 134,671 square feet, owned by the city. Upon this lot are buildings containing steam engine, stone crusher and scales.

South End.

Albany street, opposite Sharon street, wharf lot, containing 89,224 square feet. Upon this lot are stables, office, blacksmith and carpenter shops. Wharf lot adjoining above, containing 39,511 square feet, used for storage purposes. Both these wharves are owned by the city.

Massachusetts avenue, near Magazine street, lot of land containing 317,322 square feet, rented from the New York, New Haven & Hartford Railroad Company and used for storage purposes.

Back Bay.

Hereford street, near Boylston street, lot of land containing 28,020 square feet, owned by the city. Upon this lot are a stable, shed and office building. This lot is now used by the Sewer Division.

North End.

Commercial street, No. 521, wharf lot, containing 22,555 square feet, owned by the city. Upon this lot are a stable, shed and office building.

Atlantic avenue, opposite Oliver street, wharf lot, containing 21,054 square feet, placed in charge of the Paving Division May 18, 1874. This property is now used by the Sanitary Division.

Atlantic avenue, opposite Oliver street, wharf property, containing 36,460 square feet, leased from J. H. Hecht on February 19, 1898, for ten years. This lease is held by the Sanitary Division, to which the Paving Division pays for storage purposes the sum of \$5,200 per year.

LIST OF CONTRACTS FROM FEBRUARY 1, 1909, TO JANUARY 31, 1910, MADE BY THE STREET DEPARTMENT.
Paving with Wood Blocks.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
¹ Merchants row, between State and Chatham streets.	Coleman Brothers	Feb. 15, 1909.	Work not done.	(A) 550 square yards @ \$3 00 \$1,650 00 (B) 90 cubic yards @ 5 00 450 00 (C) 10 square yards @ 1 00 10 00 (D) 550 square yards @ 0 40 220 00 (E) 30 linear feet @ 0 20 6 00 (F) 25 square yards @ 0 35 8 75 (H) 10 square yards @ 1 00 10 00	
				\$2,354 75	² Nothing.
¹ State street, between Devonshire and Broad streets.	Coleman Brothers	Feb. 15, 1909.	Work not done.	(A) 3,090 square yards @ \$3 00 \$9,270 00 (B) 515 cubic yards @ 5 00 2,575 00 (C) 50 square yards @ 1 00 50 00 (D) 3,090 square yards @ 0 40 1,236 00 (F) 10 square yards @ 0 50 5 00 (H) 60 square yards @ 1 00 60 00	
				\$13,196 00	² Nothing.
¹ Exchange street, from State street about 159 feet northerly.	Coleman Brothers	Feb. 23, 1909.	Work not done.	(A) 280 square yards @ \$2 90 \$812 00 (B) 45 cubic yards @ 5 00 225 00 (C) 10 square yards @ 1 00 10 00 (D) 280 square yards @ 0 40 112 00 (E) 150 linear feet @ 0 20 30 00 (F) 60 square yards @ 0 35 21 00	
				\$1,210 00	² Nothing.

¹ Advertised and awarded to lowest bidder.

² Department not allowed to do work by court decision.

Paving with Wood Blocks.— *Concluded.*

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
Falmouth street, between Massachusetts avenue and Norway street.	James Doherty.....	June 21, 1909.	Completed July 31, 1909.	(AA) 2,430 square yards @ \$2 76 \$6,706 80 (B) 2,450 square yards @ 0 70 1,715 00 (C) 10 square yards @ 0 90 9 00 (D) 2,450 square yards @ 0 15 367 50 (E) 270 linear feet @ 0 12 32 40 (F) 130 square yards @ 0 30 39 00 (G) 30 square yards @ 0 45 13 50 (H) 270 linear feet @ 0 16 43 20 (I) 10 square yards @ 4 45 44 50 (J) 10 square yards @ 0 47 141 00 (K)	\$9,230 67
1 St. Paul street, between Norway and Falmouth streets.	U. S. Wood Preserving Company.	July 2, 1909.	Completed Aug. 30, 1909.	(AA) 780 square yards @ \$2 45 \$1,911 00 (B) 780 square yards @ 0 85 663 00 (C) 780 square yards @ 0 35 273 00 (D) 20 linear feet @ 0 15 3 00 (E) 10 square yards @ 0 25 2 50 (F) 40 square yards @ 0 30 12 00 (K)	\$2,860 90
1 Norway street, between St. Paul and Falmouth streets.	U. S. Wood Preserving Company.	July 2, 1909.	Completed Sept. 1, 1909.	(AA) 900 square yards @ \$2 45 \$2,205 00 (B) 910 square yards @ 0 85 773 50 (C) 10 square yards @ 0 85 8 50 (D) 910 square yards @ 0 35 318 50 (E) 210 linear feet @ 0 15 31 50 (F) 160 square yards @ 0 12 19 20 (G) 10 square yards @ 0 28 2 80	\$3,359 00
					\$3,416 10

Bowdoin street, from Quincy street about 392 feet southerly.	James Doherty..... July 23, 1909.	Completed Sept. 15, 1909.		
			(AA) 1,600 square yards @ \$2 40 (B) 1,650 square yards @ 0 70 (C) 20 square yards @ 0 85 (D) 1,650 square yards @ 0 25 (E) 350 linear feet @ 0 12 (F) 230 square yards @ 0 31 (G) 10 square yards @ 0 45 (H) 27 square yards @ 1 11 (K) 50 square yards @ 0 54 (L) 10 square yards @ 0 45	\$3,840 00 1,155 00 17 00 412 50 42 00 71 30 4 50 29 97 27 00 4 50
				\$5,603 77

\$5,493 39

¹ Advertised and awarded to lowest bidder.² Department not allowed to do work by court decision.

EXPLANATION OF LETTERS.

- (A) Furnishing and laying wood block paving and guaranteeing same for a period of ten (10) years after completion.
 (AA) Furnishing and laying wood block paving and guaranteeing same for a period of five (5) years after completion.
 (B) Concrete base for wood block paving and crosswalks and brows.
 (C) Granite block paving with pitch joints.
 (D) Preparing site.
 (E) Excavating and setting edgestones.
 (F) Excavating and relaying brick sidewalks.
 (G) Granite block paving with gravel joints.
 (H) Flagging crosswalks with pitch joints.
 (J) Flagging crosswalks, pitch joints furnished and laid.
 (K) Excavating and laying brick sidewalks.
 (L) Flagging crosswalks with gravel joints.

Paving with Brick Block.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
1 Linden Park street, between Tremont and Cabot streets; Vernon street, between Tremont and Cabot streets; Whit-tier street, between Columbus avenue and Cabot street; Rug-gles street, between Tremont and Cabot streets; Downing street, between Vernon and Whittier streets; Simmons street, between Linden Park and Vernon streets; Hampshire street, between Linden Park and Ruggles streets.	John E. Burns & Co.	July 29, 1909.	Completed Dec. 24, 1909.	(A) 16,500 square yards @ \$2 60 \$42,900 00 (B) 830 square yards @ 1 62 1,344 60 (C) 80 square yards @ 1 62 129 60 (D) 100 square yards @ 0 35 35 00 (E) 10,270 linear feet @ 0 08 821 60 (F) 220 linear feet @ 0 12 26 40 (G) 260 linear feet @ 0 17 44 20 (H) 35 square yards @ 2 00 70 00 (I) 500 square yards @ 0 35 175 00 (J) 4,300 square yards @ 0 23 989 00 \$46,535 40	\$48,208 22
1 Derne street, between Hancock and Temple streets.	John E. Burns & Co.	Oct. 28, 1909.	Completed Nov. 30, 1909.	(A) 600 square yards @ \$2 75 \$1,650 00 (C) 10 square yards @ 1 55 15 50 (D) 10 square yards @ 0 40 4 00 (E) 40 linear feet @ 0 10 4 00 (J) 120 square yards @ 0 35 42 00 (K) 10 square yards @ 0 40 4 00 \$1,719 50	\$1,612 90
1 Seneca street, between Harrison avenue and Albany street.	John E. Burns & Co.	Oct. 28, 1909.	Not started.	(A) 840 square yards @ \$2 75 \$2,310 00 (C) 5 square yards @ 1 55 7 75 (D) 10 square yards @ 0 40 4 00 (E) 1,000 linear feet @ 0 10 100 00 (J) 450 square yards @ 0 25 112 50 \$2,534 25	Nothing.

1 Advertised and awarded to lowest bidder.

EXPLANATION OF LETTERS.

- (A) Furnishing and laying brick block paving including preparing site, concrete base and guaranteeing same for a period of five (5) years after completion.
- (B) Laying granite block paving with pitch joints, including hauling same.
- (C) Laying granite block paving with grout joints.
- (D) Relaying granite block paving with gravel joints.
- (E) Excavating and setting edgestones.
- (F) Excavating and setting circular edgestones.
- (G) Excavating and setting edgestones, including hauling same.
- (H) Laying flagging crosswalks with pitch joints, including hauling same.
- (I) Excavating and laying brick sidewalks.
- (J) Relaying brick sidewalks.
- (K) Relaying flagging crosswalks, gravel joints.

Paving with Asphalt.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
* 3 Charles street, from south side, Fruit street across Allen street.	Barber Asphalt Paving Company.	April 29, 1909.	Completed July 27, 1909.	(C) 1,720 square yards @ \$1 50 \$2,580 00 (D) 650 square yards @ 0 90 585 00 (H) 35 square yards @ 0 65 22 75 (I) 50 square yards @ 0 90 45 00 (M) 5 square yards @ 0 65 3 25 (N) 35 cubic yards @ 15 00 525 00 (O) 5 cubic yards @ 6 00 30 00 (P) 415 square yards @ 1 00 415 00 \$4,206 00	\$4,625 95
* 3 Devonshire street, between Milk and Water streets.	Barber Asphalt Paving Company.	April 29, 1909.	Completed July 1, 1909.	(C) 750 square yards @ \$1 50 \$1,125 00 (D) 10 square yards @ 0 90 9 00 (I) 27 square yards @ 0 90 24 30 (N) 5 cubic yards @ 15 00 75 00 (O) 10 cubic yards @ 6 00 60 00 (Q) 7 linear feet @ 0 40 2 80 (T) 1 square yard @ 0 30 30 \$1,296 40	\$1,401 50
* 1 Beacon street, between Dartmouth and Fairfield streets.	Barber Asphalt Paving Company.	July 1, 1909.	Completed Nov. 4, 1909.	(B) 6,860 square yards @ \$1 50 \$10,290 00 (D) 10 square yards @ 0 85 8 50 (H) 10 square yards @ 0 35 3 50 (J) 40 square yards @ 0 95 38 00 (N) 60 square yards @ 9 95 597 00 (O) 160 cubic yards @ 7 35 1,176 00 (Q) 1,000 linear feet @ 0 20 200 00 (T) 1,300 square yards @ 0 35 455 00 \$12,768 00	\$24,594 76

¹ Advertised and awarded to the lowest bidder. ² Contract extended from Fairfield to Hereford street. ³ Without competition.

* Trinidad asphalt.

Paving with Asphalt.—*Concluded.*

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
* 1 Harrison avenue, between Malden and East Dedham streets.	Warren Brothers Company.	July 16, 1909.	Completed Oct. 16, 1909.	930 square yards @ \$2 20 5 square yards @ 1 50 360 square yards @ 0 75 30 square yards @ 0 35 20 square yards @ 0 90 5 square yards @ 0 60 380 square yards @ 0 80 170 linear feet @ 0 20 10 linear feet @ 0 25 1,310 square yards @ 0 25 180 square yards @ 0 25	\$2,046 00 7 50 270 00 10 50 18 00 3 00 304 00 34 00 2 50 327 50 45 00 \$3,068 00
* 1 Wheeler street, between Shawmut avenue and Corning street.	Warren Brothers Company.	Aug. 17, 1909.	Completed Oct. 1, 1909.	580 square yards @ \$2 50 10 square yards @ 1 60 40 square yards @ 0 35 30 square yards @ 1 70 770 linear feet @ 0 25 240 square yards @ 0 25	\$1,450 00 16 00 14 00 51 00 192 50 60 00 \$1,783 50
* 1 Kirkland street, between Pleasant and Corning streets.	Warren Brothers Company.	Aug. 17, 1909.	Completed Sept. 30, 1909.	570 square yards @ \$2 50 190 square yards @ 1 60 20 square yards @ 0 35 10 square yards @ 1 70 1,090 linear feet @ 0 25 300 square yards @ 0 25	\$1,425 00 304 00 7 00 17 00 272 50 75 00 \$2,100 50
					\$2,083 75

* 11 Massachusetts avenue, between Boylston and Newbury streets.	Warren Brothers Company.	April 27, 1909.	Completed May 24, 1909.	(B) (D) (N) (O)	700 square yards @ \$1 85 \$1,295 00 50 square yards @ 0 75 37 50 1 cubic yard @ 7 50 7 50 5 cubic yards @ 6 00 30 00	\$1,784 96
---	--------------------------	-----------------	----------------------------	--------------------------	--	------------

1 Advertised and awarded to lowest bidder. * Acme asphalt.

EXPLANATION OF LETTERS.

- (A) Furnishing and laying a 1½-inch wearing surface and a 1½-inch binder and concrete base, and guaranteeing same for a period of five (5) years after completion.
 (B) Furnishing and laying a 1½-inch wearing surface and a 1½-inch binder on existing concrete base and guaranteeing same for a period of five (5) years after completion.
 (C) Furnishing and laying a 2-inch wearing surface and a 1-inch binder on existing concrete base, and guaranteeing same for a period of one (1) year after completion.
 (D) Relaying granite block paving with pitch joints.
 (E) Laying granite block paving, pitch joints, including hauling same.
 (H) Laying granite block paving, gravel joints.
 (I) Laying flagging crosswalks, pitch joints.
 (J) Laying flagging crosswalks, pitch joints, including hauling same.
 (M) Laying flagging crosswalks, gravel joints.
 (N) Furnishing and laying extra bituminous binder.
 (O) Furnishing and laying extra cement concrete base.
 (P) Furnishing and laying cement concrete base.
 (Q) Excavating and setting edgestones, including hauling same.
 (R) Excavating and setting edgestones, including hauling same.
 (S) Preparing site.
 (T) Excavating and laying brick sidewalks.

Repairing Asphalt Pavement.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
* † Repairing asphalt pavement.	Jones & Meehan.....	Jan. 19, 1909.	Completed Jan. 31, 1910.	\$15,000; wearing surface and bituminous binder, \$1.62 per square yard; extra bituminous binder, \$8 per cubic yard; concrete base, \$0.75 per square yard.....	\$10,205 35

* Advertised and awarded to lowest bidder.

† American rock asphalt.

! These repairs are guaranteed for a period of three (3) years after completion.

Street Construction under Chapter 323 of Acts of 1891 or Special Acts or Amendments Thereto.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
! Upham avenue, between Hancock street and Cushing avenue.....	William J. Barry.....	April 29, 1909.	Completed June 15, 1909.....	\$2,202 40	\$2,237 93
! Stonehurst street, between Topliff and Hamilton streets.....	M. F. Gaddis.....	April 29, 1909.	Completed Aug. 10, 1909.....	3,093 25	2,964 43
! Montfern avenue, between Washington and Faneuil streets.....	M. F. Gaddis.....	May 7, 1909.	Completed July 31, 1909.....	3,360 50	3,402 38
! Newcastle road, between Faneuil and Hobson streets.....	M. F. Gaddis.....	May 7, 1909.	Completed Aug. 24, 1909.....	3,428 50	3,516 65
! Carmen street, between Shafter and Kilton streets.....	John McCourt & Co.....	May 20, 1909.	Completed Dec. 3, 1909.....	3,201 60	*2,799 34

STREET DEPARTMENT — HIGHWAY DIVISION.

269

1 Radcliffe street, between Harvard and Faxon streets.....	Thomas Croke & Co.....	May 26, 1909.	Completed Nov. 27, 1909.....	4,664 20	*4,009 02
1 Maybrook street, between Glenway and Greenwood streets.....	Daniel E. Lynch.....	May 26, 1909.	Completed Oct. 4, 1909.....	1,334 00	1,253 24
1 Benton street, between Columbus avenue and Tremont street.....	John McCourt & Co.....	June 2, 1909.	Completed July 10, 1909.....	1,832 90	1,878 45
1 Belfort street, between Sagamore and Saxton streets.....	J. B. O'Rourke & Co.....	June 5, 1909.	Completed Oct. 4, 1909.....	863 91	847 23
1 Covington street, between East Eighth street and Columbia road.....	J. B. O'Rourke & Co.....	June 5, 1909.	Not finished.....	1,662 71	1,557 52
1 Rexford street, between Blue Hill avenue and Oakland street.....	James H. Ferguson.....	June 5, 1909.	Unfinished.....	6,584 00	5,991 54
1 Cottage terrace, between East Cottage and Marshfield streets.....	James Doherty.....	June 18, 1909.	Completed July 31, 1909.....	3,062 70	3,072 67
1 Dayton street, between Nixon street and Shawmut Branch Railroad.....	James Doherty.....	June 18, 1909.	Completed July 29, 1909.....	673 65	844 80
1 Mountain avenue, between Lauriat and Ballou avenues.....	James Doherty.....	June 22, 1909.	Completed Oct. 11, 1909.....	6,074 00	6,319 91
1 Wellesley Park, between Park street and Melville avenue.....	James Doherty.....	July 15, 1909.	Completed Sept. 29, 1909.....	6,284 55	6,600 17
1 Penhallow street, between Melville avenue and Mather street.....	Frank H. Cowin Company..	July 15, 1909.	Unfinished.....	1,038 66	866 40
1 Doris street, between Dorchester avenue and Auckland street.....	J. B. O'Rourke & Co.....	July 15, 1909.	Completed Oct. 4, 1909.....	541 01	596 41
1 Melbourne street, between Centre and Brent streets.....	Thomas Croke & Co.....	July 23, 1909.	Completed Nov. 17, 1909.....	1,751 18	*1,361 16
1 Walworth street, between Belgrade avenue and South street.....	Thomas F. Minton.....	Aug. 3, 1909.	Completed Nov. 19, 1909.....	4,248 20	4,632 86

1 Advertised and awarded to lowest bidder.

* Final payment not made.

Street Construction under Chapter 323 of Acts of 1891 or Special Acts or Amendments Thereto.—Concluded.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
¹ Fletcher street, between Centre and South streets.....	James Doherty.....	Sept. 14, 1909.	Completed Nov. 18, 1909.....	\$6,102 20	\$6,416 38
¹ Hyde Park avenue, from 300 feet north of Ashland street to Hyde Park line.....	West Roxbury Trap Rock Co.	Sept. 14, 1909.	Unfinished.....	19,916 00	1,781 60
¹ Evergreen street, from South Huntington avenue about 443 feet easterly.....	J. H. McCarthy.....	Sept. 29, 1909.	Completed Dec. 13, 1909.....	2,006 90	*1,690 27
¹ Millet street, between Harvard and Athelwold streets.....	James Doherty.....	Sept. 30, 1909.	Completed Nov. 16, 1909.....	1,015 20	1,047 82
¹ Opera place, between Huntington avenue and St. Stephen street.....	J. H. McCarthy.....	Oct. 7, 1909..	Completed Nov. 9, 1909.....	1,139 50	1,391 05
¹ † Marbury terrace, between Amory street and N. Y., N. H. & H. R. R.....	James Doherty.....	Oct. 18, 1909.	Unfinished.....	1,479 95	671 41
Avenue Louis Pasteur, between Longwood avenue and the Fenway.....	James Doherty.....	Oct. 20, 1909.	Unfinished.....	22,634 60	6,536 50
¹ Prescott street, from Frankfort street to B., R. B. & L. R. R.....	James Doherty.....	Nov. 3, 1909.	Unfinished.....	12,252 50	1,093 95

* Final payment not made.

¹ Advertised and awarded to lowest bidder.

† For additional items in this contract, see furnishing and laying artificial stone sidewalks.

CONTRACTOR.	Dated.	Price per Square Foot.	Amount Expended in 1909.
Warren Brothers Company.....	May 7, 1909.....	\$0 06	\$1,130 70
Simpson Brothers Corporation.....	May 7, 1909.....	06	891 24
W. A. Murtfeldt Company.....	May 7, 1909.....	06	989 70
Thomas J. Hinds.....	May 7, 1909.....	06	1,253 76
Jeremiah J. Sullivan.....	May 7, 1909.....	06	739 38
Adams Pond Company.....	May 7, 1909.....	06	3,508 50
Robert Eagar, Jr.....	May 7, 1909.....	06	1,341 48
David M. Biggs & Co.....	May 7, 1909.....	06	67 44
Michael Dello Russo.....	July 29, 1909.....	06	Nothing paid.
John E. Palmer.....	Aug. 20, 1909.....	06	Nothing paid.
John Varnerin & Sons.....	Oct. 12, 1909.....	06	61 20

* These walks are guaranteed by a surety company bond for five (5) years from date of completion, and were laid on various public streets where the contractor had agreements with the abutters. The price, 6 cents per square foot, is equivalent to the expense to the city for one-half the cost of a brick sidewalk.

Repairing Artificial Stone Sidewalks.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
1 Repairing artificial stone side- walks.....	Robert Eagar, Jr.....	May 20, 1909.	.....	Less than 25 square feet, \$8 lump sum; 25 to 100 square feet, 24c. per square foot; 100 to 500 square feet, 20c. per square foot; 500 square feet and over, 18c. per square foot.....	\$2,017 64

¹ Invitation on bids and awarded to lowest bidder.

Furnishing and Laying Artificial Stone Sidewalks.†

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
*1 Montfern avenue, between Washington and Faneuil streets.	W. A. Murtfeldt Company....	May 20, 1909.	Completed July 1, 1909.	5,140 square feet @ \$0.165.....	\$848 10 \$847 28
*1 Radcliffe street, between Harvard and Faxon streets.	Warren Brothers Company....	May 20, 1909.	Completed Oct. 16, 1909.	7,480 square feet @ 0.1575.....	1,178 10 1,208 34
*1 Stonehurst street, between Topliff and Hamilton streets.	Warren Brothers Company....	May 20, 1909.	Completed June 19, 1909.	6,600 square feet @ 0.154.....	1,016 40 1,419 42
*1 Carmen street, between Shafter and Kilton sts.	Warren Brothers Company....	May 20, 1909.	Completed Oct. 29, 1909.	4,720 square feet @ 0.159.....	750 48 808 52
*1 Newcastle road, between Faneuil and Hobson streets.	Simpson Brothers Corporation.	May 26, 1909.	Completed July 30, 1909.	7,390 square feet @ 0.164.....	1,211 96 1,229 34
*1 Belfort street, between Sagamore and Saxton streets.	Jeremiah J. Sullivan.....	June 2, 1909.	Completed July 16, 1909.	1,500 square feet @ 0.159.....	238 50 235 80
†1 Summer street, north side, between Fort Point Channel and A street.	James Doherty.....	June 5, 1909.	Completed June 19, 1909.	7,430 square feet @ 0.12.....	891 60 894 15
*1 Rexford street, between Blue Hill avenue and Oakland street.	Warren Brothers Company....	June 9, 1909.	Not started.	9,000 square feet @ 0.1325.....	1,192 50
*1 Dayton street, from Nixon street to Shawmut Branch Railroad.	James Doherty.....	June 18, 1909.	Completed July 27, 1909.	2,290 square feet @ 0.155.....	354 95 341 00
*1 Penhallow street, between Melville avenue and Mather street.	James Doherty.....	July 15, 1909.	Not started.	1,300 square feet @ 0.155.....	201 50

*1 Wellesley Park, between Park st. and Melville ave.	James Doherty.....	July 15, 1909.	Completed Aug. 28, 1909.	9,600 square feet @ 0.1375.....	1,320 00	1,366 66
*1 Melbourne ¹ street, between Centre and Brent streets.	Jeremiah J. Sullivan.....	July 16, 1909.	Completed Sept. 13, 1909.	3,630 square feet @ 0.16.....	580 80	1,124 72
1 Haviland street, between Massachusetts avenue and Hemenway street.	James Doherty.....	July 29, 1909.	Completed Aug. 10, 1909.	3,600 square feet @ 0.1325.....	477 00	482 57
*1 Mountain avenue, between Lauriat and Ballou aves.	James Doherty.....	Aug. 5, 1909.	Completed Oct. 13, 1909.	14,800 square feet @ 0.1275.....	1,887 00	1,869 92
*1 Fletcher ² street, between Centre and South streets.	James Doherty.....	Sept. 17, 1909.	Completed Nov. 16, 1909.	14,000 square feet @ 0.129.....	1,806 00	1,958 89
*1 Millet street, between Harvard and Athelwold sts.	James Doherty.....	Sept. 30, 1909.	Completed Nov. 11, 1909.	4,290 square feet @ 0.159.....	682 11	667 16
*1, 2 Marbury terrace, between Amory street and N. Y., N. H. & H. R. R.	James Doherty.....	Oct. 18, 1909.	Unfinished.	4,360 square feet @ 0.135.....	588 60	109 65

* Laid in connection with the construction of the street, under chapter 323 of the Acts of 1891 and amendments.

† For additional items in this contract see Paving and Regulating.

‡ These walks are guaranteed by a surety company bond for five (5) years from date of completion.

§ Advertised and awarded to lowest bidder.

‡ For additional items in this contract see Street Construction, under chapter 323, Acts of 1891, or special acts or amendments thereto.

Paving and Regulating.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost as per Estimated Quantities, not including Materials Furnished by City.	Amount Expended in 1909.
¹ Huntington avenue, between Gainsborough street and Longwood avenue.	C. W. Dolloff & Co.	April 21, 1909. .	Completed July 31, 1909 . .	\$619 50	\$647 83
² Washington street, between Lake and Tremont streets.	Charles J. Jacobs Company . .	April 26, 1909. .	Completed May 31, 1909 . .	500 00	390 93
¹ Auckland street, from Savin Hill avenue to Bay street.	Thomas McManus & Co.	May 17, 1909. .	Completed July 6, 1909 . . .	282 50	289 89
¹ Nottingham street, from Bowdoin avenue to Bullard street.	Anthony Dimond.	May 17, 1909. .	Completed June 8, 1909 . . .	436 10	411 24
¹ North street, between Blackstone and Richmond streets.	F. S. & A. D. Gore Corp.	May 18, 1909. .	Completed June 30, 1909 . .	10,408 40	10,997 92
* ¹ Summer street, north side, between Fort Point Channel and A street.	James Doherty.	June 5, 1909. .	Completed June 19, 1909 . .	290 80	464 63
Washington street, between Green street and the Arborway.	John F. O'Connell.	June 19, 1909. .	Unfinished.	21,391 60	6,145 84
¹ Massachusetts avenue, from Southampton street to Midland Division Bridge.	F. S. & A. D. Gore Corp.	June 22, 1909. .	Completed Oct. 26, 1909 . .	21,547 30	22,624 36
¹ Albany street, between Broadway and Dover street.	F. S. & A. D. Gore Corp.	July 6, 1909. .	Completed Dec. 16, 1909 . .	19,326 80	†18,115 21
¹ East street, between South street and Atlantic avenue.	F. S. & A. D. Gore Corp.	July 6, 1909. .	Completed July 31, 1909 . .	3,074 20	3,071 94
¹ Causeway street, southerly side, between Portland and Canal streets.	John T. Shea, Jr.	Sept. 2, 1909. .	Completed Oct 21, 1909 . .	1,160 00	1,274 10

Paving and Regulating.—*Concluded.*

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost as per Estimated Quantities, not including Materials Furnished by City.	Amount Expended in 1909.
1 Huntington avenue, between Parker and Tremont streets.	John E. Burns	Sept. 8, 1909. . . .	Completed Nov. 1, 1909. . . .	\$1,239 10	\$788 09
1 Whitney street, between Tremont and Conant streets.	John McCourt & Co.	Sept. 23, 1909. . .	Completed Oct. 19, 1909. . . .	831 20	829 86
1 South Market street, between Commercial street and Atlantic avenue.	J. B. O'Rourke & Co.	Oct. 26, 1909. . .	Completed Dec. 3, 1909. . . .	12,352 55	†11,785 70
1 Atlantic avenue, at Congress street.	Frank H. Cowin Company	Oct. 26, 1909. . .	Completed Dec. 24, 1909. . . .	1,320 00	1,450 05
1 Corbet street, between Norfolk and Selden streets.	James H. McCarthy.	Oct. 26, 1909. . .	Not started.	5,423 50	
1 Walden, Centre and Bickford streets, at the Thomas G. Plant Shoe Factory.	John McCourt & Co.	Nov. 1, 1909. . . .	Completed Nov. 30, 1909. . . .	895 60	†750 06
1 Washington street, from northerly side of Arborway to beyond N. Y., N. H. & H. Railroad.	James Doherty.	Nov. 9, 1909. . . .	Not started.	34,322 80	
1 St. Stephen street, between Bryant and Gainsborough streets.	William J. Rafferty & Co.	Nov. 10, 1909. . .	Completed Dec. 2, 1909. . . .	547 40	661 46

¹ Advertised and awarded to lowest bidder.

* For additional items in this contract see Furnishing and Laying Artificial Stone Sidewalks.

† Final payment not made.

Miscellaneous Agreements.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
¹ Teaming edgestone and flagging from the South End Yard.	S. and R. J. Lombard.....	Feb. 19, 1909.	Completed Jan. 31, 1910.	\$0.07 per linear foot.....	*\$1,104 33 +1,143 19
¹ Furnishing single and double teams and extra men in Paving, Sanitary, Sewer and Street Cleaning Divisions, in District No. 4, Brighton.	Clark & Shea.....	Feb. 19, 1909.	Completed Jan. 31, 1910.	Single team, \$2.75; double team, \$4.45; extra men, \$2.	*2,876 05 +2,916 67
¹ Furnishing single and double teams and extra men in Paving, Sanitary, Sewer and Street Cleaning Divisions in Districts Nos. 2 and 3, East Boston and Charlestown.	Bernard E. Grant.....	Feb. 19, 1909.	Completed Jan. 31, 1910.	Single team, \$3; double team, \$4.85; extra men, \$2.	*2,988 37 +3,136 60
¹ Furnishing single and double teams and extra men in Paving, Sanitary, Sewer and Street Cleaning Divisions in District No. 10, North and West Ends.	Bernard E. Grant.....	Feb. 19, 1909.	Completed Jan. 31, 1910.	Single team, \$3.05; double team, \$4.50; extra men, \$1.85.	*3,343 72 +4,111 97
¹ Furnishing single and double teams and extra men in Paving, Sanitary, Sewer and Street Cleaning Divisions in District No. 1, South Boston and Dorchester, north.	Thomas F. Lynch.....	Feb. 19, 1909.	Completed Jan. 31, 1910.	Single team, \$2.80; double team, \$5; extra men, \$2.	*2,046 25 +3,145 00
Furnishing single and double teams and extra men in Paving, Sanitary, Sewer and Street Cleaning Divisions, in District No. 5, West Roxbury.	James E. Noble.....	Feb. 27, 1909.	Completed Jan. 31, 1910.	Single team, \$3; double team, \$4.70; extra men, \$2.	*2,779 05 +3,918 55
¹ Furnishing single and double teams and extra men in Paving, Sanitary, Sewer and Street Cleaning Divisions in District No. 8, South End and Roxbury, north.	Wm. T. McNally Company.	Feb. 27, 1909.	Completed Jan. 31, 1910.	Single team, \$3.15; double team, \$4.50; extra men, \$2.	*5,807 03 +6,111 68

STREET DEPARTMENT — HIGHWAY DIVISION.

277

1 Furnishing single and double teams and extra men in Paving, Sanitary, Sewer and Street Cleaning Divisions in District No. 7, Roxbury, south, and Jamaica Plain.	Joseph Sprissler.....	Feb. 19, 1909.	Completed Jan. 31, 1910.	Single team, \$2.90; double team, \$4.45; extra men, \$2.	*\$7,534 06 †8,374 33
1 Furnishing single and double teams and extra men in Paving, Sanitary, Sewer and Street Cleaning Divisions in District Nos. 6 and 9, Dorchester and Ashmont.	John J. Loonie.....	Feb. 27, 1909.	Completed Jan. 31, 1910.	Single team, \$3.20; double team, \$4.50; extra men, \$2.	*7,983 65 †8,952 55
1 Guarantee bond, special sidewalks construction at 669-679 Washington street.	Washburn Realty Trust, Ltd.	Feb. 9, 1909.	.....	Nothing.	
1 Building bulkhead Northampton street, between Columbus avenue and Tremont street.	George H. Cavanagh.....	Feb. 11, 1909.	Completed March 31, 1909.	\$473.....	473 00
1 Cleaning, oiling and watering streets in West Roxbury districts.	Charles J. Jacobs Company.	March 18, 1909.	Completed Dec. 1, 1909.	Cleaning streets and sidewalks, \$13,736; two-horse water cart, \$5 per day.	13,736 00
1 Cleaning, oiling and watering streets in Dorchester district.	John H. Winsloe.....	March 18, 1909.	Completed Dec. 1, 1909.	Cleaning streets and sidewalks, \$8,989; two-horse water cart, \$4.72 per day.	8,989 00
1 Leasing Chestnut Hill avenue ledge lot and quarrying and furnishing stone on streets in Brighton.	Rowe Contracting Company,	March 19, 1909.	Unfinished.	Leasing plant, \$0.15 for 2,000 pounds, quarried and crushed. Stone delivered, \$0.95 per 2,000 pounds.	*6,033 61 22,799 37
1 Cleaning, oiling and watering streets in Brighton district.	Thomas J. Shea Company...	March 22, 1909.	Completed Jan. 6, 1910.	Cleaning streets and sidewalks, \$8,530; two-horse water cart, \$5.50 per day.	9,596 95
2 Repairing iron fence on the south sidewalk, westerly end of Broadway Bridge.	George T. McLauthlin Co....	April 5, 1909.	Completed April 26, 1909.	\$161.....	161 00
1 Remove draw span, drawtender, pier and pile bridge on South Boston side of Mt. Washington Avenue Bridge.	William H. Ellis.....	April 5, 1909.	Completed July 13, 1909.	\$200.....	795 00

* Amount paid during 1909.

1 Advertised and awarded to lowest bidder.

† Amount earned during 1909.

2 Invitation bids and awarded to lowest bidder.

Miscellaneous Agreements.—Continued.

CONTRACT.	Awarded to.	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
¹ Rebuild bulkhead on Albemarle street, at the Boston & Providence Railroad	George T. Rendle	April 14, 1909.	Completed May 6, 1909.	\$274.	\$274 00
² Raising flagstones on sidewalks on Clinton street, between Ford's Run and Mercantile street, and at the corner of Commercial st.	John W. & Trace N. Bowers . .	April 16, 1909.	Completed May 12, 1909.	\$190.	207 22
² Furnish and put up galvanized iron gutters in sub-passageway under Boston & Albany Railroad at the Allston Station.	E. B. Badger & Sons Company.	April 16, 1909.	Completed.	\$290.	290 00
¹ Repairing down-stream fender on the East Boston side of Channel of Meridian Street Bridge.	William H. Ellis	May 11, 1909.	Completed June 24, 1909.	\$447 50.	489 07
³ Guarantee bond, artificial stone sidewalk on Faneuil street at Oak Square avenue.	United States Fidelity & Guaranty Company.	May 19, 1909.	.....	.....	*106 74
⁴ Guarantee bond, artificial stone sidewalks on Centre street, Lakeville place and Beaufort road.	United States Fidelity & Guaranty Company.	May 20, 1909.	.....	.....	†134 82
¹ Building retaining wall on Florence street at the Mt. Hope Station.	Daniel E. Lynch	May 26, 1909.	Completed Nov. 17, 1909.	\$2,200.	*1,716 73
¹ Rebuild bridge over Stony brook at Canterbury and Ashland streets.	Thomas F. Minton	June 22, 1909.	Completed Aug. 4, 1909.	\$700.	\$700 00
¹ Repair fence of the waterways at Meridian Street Bridge.	W. H. Ellis	June 26, 1909.	Completed Aug. 11, 1909.	\$1,469.	1,901 00
¹ Furnish and lay a bituminous macadam pavement in Morton street, between Forest Hills street and Blue Hill avenue.	William J. Barry	July 6, 1909.	Completed Sept. 23, 1909.	16,900 square yards @ \$0.67. .	\$11,323. . .

STREET DEPARTMENT — HIGHWAY DIVISION.

279

2 Otisfield street, Roxbury, relaying tar concrete pavement.	Simpson Bros. Corporation.	July 19, 1909.	Completed Oct. 30, 1909.	\$259.....	Nothing.
2 Insuring five automobiles against liability for personal injury.	General Accident Fire and Life Assurance Corporation, Ltd.	Sept. 9, 1909.	Expires Sept. 10, 1910.	\$162 per year.....	\$162 00
2 Insuring Reo automobile against fire and damage.	Federal Insurance Company.	Sept. 10, 1909.	Expires Sept. 10, 1910.	\$20 per year.....	20 00
2 Insuring Stevens Duryea automobile against fire and damage.	Federal Insurance Company.	Sept. 10, 1909.	Expires Sept. 10, 1910.	\$36 per year.....	36 00
1 Rebuilding a part of Granite Bridge, Dorchester.	William H. Ellis.....	Oct. 20, 1909.	Completed Dec. 13, 1909.	\$2,393.....	*2,623 35
1 Repairing draw span of Neponset Bridge.	Boston Bridge Works, Inc...	Oct. 20, 1909.	Unfinished.	\$8,985.....	Nothing.
1 Repairing and strengthening Berkeley Street Bridge, over the Boston & Albany and N. Y., N. H. & H. R. R.	Boston Bridge Works, Inc...	Oct. 29, 1909.	Unfinished.	\$13,549 80.....	Nothing.
1 Furnishing and erecting wooden fence at Norfolk Street Bridge.	P. J. Dinn & Co.....	Oct. 30, 1909.	Completed Jan. 6, 1910.	\$180.....	\$180 00
1 Building an extension of the Ashmont Street and Dorchester Avenue Bridge.	Jones & Meehan.....	Nov. 13, 1909.	Not started.	\$4,932.....	
Huntington avenue, at Boston & Albany Railroad Bridge, northerly side, relay bitulithic pavement.	Warren Brothers Company..	Nov. 24, 1909.	Completed Dec. 9, 1909.	200 square yards @ \$2.50 per square yard..	\$558 40
1 Repairing fender guard, Dover Street Bridge, Boston side.	George T. Rendle.....	Nov. 26, 1909.	Completed Dec. 20, 1909.	\$495.90.....	517 90
2 Furnishing and installing machinery for draw span, Neponset Bridge.	Walworth Construction & Supply Company.	Nov. 29, 1909.	Unfinished.	\$2,486.12.....	Nothing.

¹ Advertised and awarded to lowest bidder.⁴ Rebate paid to Benjamin Fox.

* Amount paid during 1909.

² Without competition.⁶ Invitation bids and awarded to lowest bidder.

† Amount earned during 1909.

³ Rebate paid to Charles B. Collan.[†] Payable from special appropriation.

Huntington Avenue Bridge.

Miscellaneous Agreements.— *Concluded.*

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
¹ Removing snow and ice in Snow Districts Nos. 4 and 5.	Charles J. Jacobs Company..	Dec. 13, 1909.	Expires May 1, 1910.	District No 4, \$0.42 per cubic yard. District No. 5, 0.45 per cubic yard.	\$1,468 25
² Removing snow and ice in Snow District No. 3.	Joseph McGreevey.....	Dec. 13, 1909.	Expires May 1, 1910.	\$0.37 per cubic yard.....	1,200 65
¹ Removing snow and ice in Snow Districts No. 1 and 2..	J. C. Coleman & Sons Co. . . .	Dec. 13, 1909.	Expires May 1, 1910.	District No. 1, \$0.29 per cubic yard. District No. 2, 0.35 per cubic yard.	1,335 16
Guarantee bond, artificial stone sidewalks on Cunningham street.	American Bonding Company of Baltimore.	Dec. 14, 1909.	.....	Nothing paid by City.....	
¹ Repairing fender guard of Warren Bridge, Boston side.	George T. Rendle.....	Dec. 17, 1909.	Completed Jan. 3, 1910.	\$372.25.....	328 60
³ Furnish and erect iron fence on Florence street wall at the Mt. Hope Station.	P. J. Dinn & Co.	Dec. 24, 1909.	Unfinished.	351 linear feet @ \$1.80 per foot.....	Nothing.
¹ Repairing fender guard and draw pier of Chelsea Bridge, north.	George T. Rendle.....	Jan. 1, 1910.	Completed Jan. 29, 1910.	\$2,045.....	2,779 15
Building Toll Gate way footbridge, West Roxbury.	Boston Bridge Works, Inc.	Jan. 26, 1910.	Unfinished.	\$5,865.....	Nothing.

¹ Advertised and awarded to lowest bidder.² Invitation bids and awarded to second lowest bidder.³ Invitation bids and awarded to lowest bidder.

Boston and Cambridge Bridges.

CONTRACT.	Awarded to	Dated.	Progress of Work.	Estimated Cost.	Amount Expended in 1909.
¹ Repairing Western Avenue Bridge.	William H. Ellis.....	Dec. 7, 1909.	Unfinished.	\$6,429.....	\$1,350 65

¹ Advertised and awarded to lowest bidder

APPENDIX C.

REPORT OF THE DEPUTY SUPERINTENDENT OF
LAMP DIVISION.

BOSTON, MASS., February 1, 1910.

MR. GUY C. EMERSON,

Superintendent of Streets:

DEAR SIR,— The annual report of the Lamp Division for the year 1909 is herewith submitted.

This division has supervision of the lighting, care and maintenance of the various types of electric, gas and naphtha lamps in use by the city for illuminating the streets, alleys, parks and squares, the setting up of all new lamps in the streets and the placing of glass street signs and numbers in the lanterns.

There was appropriated for this division for the financial year ending January 31, 1910, the sum of \$800,000. The expenditures amounted to \$719,574.91, thus leaving a balance of \$80,425.09 unexpended.

The new contract for furnishing the city with electric lamps was signed May 5, 1909, and, commencing from the date of this new agreement for furnishing the magnetite and flame arc lamps in place of the Gilbert inclosed arc lamps, an inspection of all the electrical districts throughout the entire city was made at night during the spring and summer months, with the point in view of a more systematic arrangement of the arc lamps so as to obtain a better distribution of light upon the streets and squares by the relocation of the old lamps and the addition of such new ones as was necessary to improve the lighting.

The principal squares at the junction of the most traveled highways have been illuminated by the installation of "Thoran" or flame arc lamps erected on poles 50 feet high, with ornamental iron bases and lyre tops, located in paved spaces established by the Highway Division where it was found practical to locate one.

In the installation of the magnetite lamps new posts 5 feet higher than the old poles (or 25 feet to the lamp),

and with Lundin pole-top fixtures, were set for such lamps as were erected in new locations, and also substituted for 1,200 of the old posts.

The discontinuance of the naphtha lamps and the substitution of mantle gas or tungsten electric lamps has been nearly completed, only a few remaining to be taken care of during the ensuing year.

The activity of the gas company in extending its main pipes into the districts lighted with naphtha lamps has resulted in a considerable increase in the total number of gas lamps.

In the installation of the tungsten lamps an enameled steel radial reflector attached to a pipe bracket, with wrought-iron scroll, is used when the street fixture is to be placed on a wooden pole or building. An ornamental iron top with opal glass dome and clear glass globe has been used when installing the lamps on iron lamp-posts.

The contract with the Rising Sun Street Lighting Company was extended from September 15, 1909, to January 31, 1910, at the following reduced prices per annum:

KIND OF LAMPS.	Price per Annum.
Single-mantle lamp with gas.....	\$23 60
Two-mantle lamp with gas.....	35 20
Three-mantle lamp with gas.....	47 60
Single-mantle naphtha lamp.....	29 20
Lighting and care of the open-flame fire-alarm lamp(without gas),	10 50 -

For experimental purposes twenty Ramsdell inverted and twenty Graetzin inverted mantle lamps were installed on special extensions on lamp-posts in the Jamaica Plain district. Since these lamps were installed a new ornamental post extension for these inverted mantle lamps has been designed and an additional installation is now in progress.

Burgi distance pressure-lighters have been purchased, together with burners with Bunsen pilots, etc., and lanterns for same. Experiments are now in progress with these impulse-lighters.

Photometric tests of the lamps installed on the streets have

been made for the division by the electrical testing laboratories of New York and also by parties in the employ of the city. In order to obtain additional data relating to the candle power of the street lamps the division has purchased a Sharp-Miller portable photometer. Two Bristol recording gauges for obtaining gas pressures, also two 4-inch and one 6-inch water gauges, and one Tufts' meter have been purchased.

Complaints received from different sources in relation to the various street lamps have been promptly investigated by the inspection force, and the lighting companies required to remedy any defects in the lamps noted. Deductions for all lamps reported out have been made on the monthly bills of the lighting companies.

On Sunday, December 26, 1909, a very severe snow and sleet storm accompanied by a heavy gale occurred which affected the overhead wires most disastrously. The wires of the overhead arc circuits were encumbered with ice incrustated telephone, telegraph and other wires hanging down and over them in such close proximity as to endanger the public and in order to avoid an accident a number of the circuits were ordered cut out and remained out for several nights until the broken wires and other obstructions could be cleared from the circuit lines. Short-circuits which occurred during this storm also had a serious effect upon the underground wires.

The work done by the division in the installation of new lamps, repairs and alterations of services and lamp-posts has been conducted as follows:

Five hundred seventy-five new single-mantle gas lamps have been installed and seven relighted. Eleven new fire-alarm signal lamps have been added. One hundred forty-six new arc lamps have been installed, subdivided as follows: Magnetites, 111; flame, 24; Gilbert, 11. Six Gilbert lamps have been relighted, and 2,247 Gilbert lamps have been changed to magnetite arc lamps. Nine hundred three new tungsten lamps have been installed. Arc lamps have been provided during the skating season at Wood Island Park, Jamaica Pond, Savin Hill and North Brighton. Ninety-five triple-mantle gas lamps have been changed to double-mantle lamps, and one triple-mantle police lamp to single-mantle. Forty single-mantle gas lamps have been changed to Graetzin and Ramsdell inverted mantle lamps (20 each). Two hundred forty-six single-mantle, 28 triple-mantle, 2 fire-alarm lamps, 1,060 naphtha lamps, 74 arc lamps and 29 carbon incandescent lamps have been discontinued and removed. The

total number of lamps of all types installed during the year was 1,780, the total number of lamps discontinued 1,553, a total net increase of 227 lamps.

Changes in locations of 36 gas and 65 arc lamp-posts have been made for the better lighting of the street or on account of street construction. One thousand nine hundred ninety-eight lamp-posts and 5 brackets have been set for the various types of lamps and 841 incandescent fixtures have been put up; 47 gas lamp-posts that were broken by teams or other causes were removed and new ones set. Ten gas and 3 arc lamp-posts have been set in place of bracket fixtures. Five hundred eighty-six gas, 1 tungsten and 11 arc lamp-posts have been straightened. One hundred twenty-eight gas, 7 tungsten and 11 arc lamp-posts have been reset to line and grade. One hundred seventy gas, 723 naphtha and 1,284 arc lamp-posts were removed from the streets. Forty-one gas brackets and 7 electric fixtures have been removed. One lamp-post has had the spindle recalked; 4 gas brackets have been repaired. Six hundred seventy-six new service pipes have been removed and 312 have been removed and cut off from the main pipes. Seven lamp services have been reconnected with new mains, and 36 renewed or relaid that were trapped or otherwise affected by street changes. One hundred eighty-one leaks in service pipes were repaired; 12 risers renewed; 23 risers removed, and 504 service pipes were cleared. The number of glass signs placed in lanterns is 640, and also 223 numbers; 62 glass shades have been placed in the gas lanterns.

The expense of changing the wooden street signs on the old arc lamp-posts to the new posts has been borne by this division.

Tables showing the expenditures of the division, the total number of various types installed, the contract price paid per annum, the increase or decrease of the number of lamps, and copies of lighting contracts, etc., are annexed.

Respectfully submitted,

EDWARD C. WADE.

Deputy Superintendent.

GAS LIGHTING.

There are 11,357 single mantle gas lamps in use, 95 double mantle lamps, 20 Graetzin inverted mantle and 20 Ramsdell inverted mantle lamps; 56 triple mantle gas, 18 triple mantle

police lamps in front of stations, and 201 open-flame fire-alarm signal lamps.

The city furnishes and provides for the setting of the lamp-posts, has service pipes laid from the gas main to the top of the post, maintains all such pipes and posts in good condition and repair, furnishing the gas, contracts for lanterns, burners, other necessary equipment and labor for lighting and care.

The division pays for the cost of gas, lighting and care of the fire-alarm lamps, and the cost of repairs and setting up of posts is assumed by the Fire Department.

Gas Lamps.

COMPANY.	District.	Number of Lamps.	Type of Lamp.	Rated Candle Power.	Gas Consumed per Lamp per Hour.	Hours of Burning per Annum.	Cost of Gas per M.	Cost of Gas per Lamp per Annum.	Cost per Lamp for Lighting, Care and Repair per Annum.	Total Cost per Lamp.
Rising Sun Street Lighting Company.	Boston Consolidated.	10,315	Single mantle.	60	3 feet.	4,000	\$0.78	.....	.....	\$23 60
		50	Triple mantle.	180	9 feet.	4,000	.78	.....	.....	47 60
		95	Double mantle	120	6 feet.	4,000	.78	.....	.....	35 20
		176	Open flame.	.....	4 feet.	4,000	.78	\$12 48	\$10 50	22 98
Rising Sun Street Lighting Company.	Charlestown	518	Single mantle.	60	3 feet.	4,000	.90	.....	.....	23 60
		12	Open flame.	.....	3 feet.	4,000	.90	10 80	10 50	21 30
		524	Single mantle.	60	3 feet.	4,000	.90	.....	.....	23 60
Rising Sun Street Lighting Company.	East Boston	6	Triple mantle	180	9 feet.	4,000	.90	.....	.....	47 60
		13	Open flame.	.....	4 feet.	4,000	.90	14 40	10 50	24 50

NAPHTHA LIGHTING.

There are 119 single-mantle naphtha lamps in use. The city furnishes and provides for the setting of the lamp-posts, contracts for lanterns and necessary equipment, naphtha, and labor for lighting and care.

COMPANY.	Number of Lamps.	Type of Lamp.	Rated Candle Power.	Hours per Annum.	Contract Price for Lighting, Care, Repair and Naphtha, per Annum.
Rising Sun Street Light- ing Company.....	119	Single mantle.	60	3,828	\$29 20

ELECTRIC LIGHTING.

There are 2,358 magnetite arc lamps, 24 "Thoran" or flame arc lamps, 1,496 Gilbert inclosed arc lamps, 943 tungsten lamps and 31 carbon filament lamps in use.

The companies provide and set the lamp-posts, furnish lamps, wires, cables and all other necessary equipment, and maintain them in good condition and repair.

Incandescent Lamps.

COMPANY.	Number of Lamps.	Type of Lamp.	Type of Circuit.	Watts.	Candle Power.	Lighting Hours.	Cost per Lamp per Annum.
Edison Electric Illuminating Company.....	238	Tungsten.	Series 6.6 amp. D. C.	50	40	3,828	\$19 35
	611	Tungsten.	Series 6.6 amp. D. C.	75	60	3,828	22 31
	2	Tungsten.	Series 6.6 amp. D. C.	100	80	3,828	27 85
	11	Tungsten.	Multiple 113 volts.	50	40	3,828	19 35
	79	Tungsten.	Multiple 113 volts.	75	60	3,828	22 31
	2	Tungsten.	Series 7.5 amp. A. C.	75	60	3,828	22 31
	14	Carbon.	Multiple 113 volts.	.....	40	3,828	19 35
	15	Carbon.	Multiple 113 volts.	.....	16	Meter.	.....
	2	Carbon.	Multiple 113 volts.	.....	32	Meter.	.....
Boston & Albany.....							

The following table shows the number of lamps of the various types in use on January 1, 1910, as compared with the number in use in January, 1909:

	January, 1910.	January, 1909.	Increase or Decrease.
Mantle gas.....	11,357	11,061	+296
Mantle naphtha.....	119	1,179	—1,060
Electric arc.....	3,878	3,800	+78
Incandescent carbon.....	31	38	—7
Incandescent tungsten.....	943	43	+900
Fire alarm.....	201	192	+9
Triple mantle gas.....	56	179	—123
Triple mantle police.....	18	19	—1
Double mantle gas.....	95	.....	+95
Ramsdell inverted mantle.....	20	.....	+20
Graetzin inverted mantle.....	20	.....	+20
	16,738	16,511	+227

The following tables show the location by wards and the number of new street lamps erected during the year.

New Gas Lamps Erected and Lighted.

LOCATION.	Ward.	Number of Lamps.
Wordsworth street.....	1	2
Horace street.....	1	1
Orleans street.....	2	1
Jackson street.....	3	1
Polk street.....	3	1
Bunker Hill street.....	4	1
Essex street.....	4	1
McCarthy court.....	4	1
Mead street.....	4	1
Salem street, at rear of No. 70.....	6	1
Tileston court.....	6	1
Tileston street, No. 21.....	6	1
Tileston street, at rear of 21.....	6	1
Clark street.....	6	1

New Gas Lamps Erected and Lighted.—*Continued.*

LOCATION.	Ward.	Number of Lamps.
Chambers-street court.....	8	1
Dedham street, rear No. 88.....	9	1
West Newton street.....	10	1
Acorn street, rear No. 31.....	11	1
Phillips street.....	11	1
Lime street.....	11	1
Boylston street, rear of.....	11	1
Public Alley No. 443.....	11	2
Lindall place, rear No. 2.....	11	1
Hancock street, rear of.....	11	1
Fourth street, at No. 98.....	13	1
Sheridan place.....	13	1
Sixth-street place.....	13	1
Dunham park.....	13	1
Fifth-street place.....	13	2
Third street, rear No. 9.....	13	1
Third street, rear No. 11.....	13	1
Barnard place.....	14	1
Grace court.....	14	1
City Point court.....	14	1
H-street court.....	14	1
Henderson avenue.....	14	1
Nash court.....	14	1
O street, rear of 151.....	14	1
Pleasant place.....	14	1
Pulaski avenue.....	14	1
Schrepel place.....	14	1
Scott street.....	14	2
Second street, rear No. 597.....	14	1
Third street, rear No. 363.....	14	1
Ellery street.....	15	1
Ewer street.....	15	2
Glover court.....	15	1
Woodward place.....	15	1
Dalkeith street.....	16	1
Wendell place.....	16	1
Sherwood street.....	17	2
Rockingham place.....	18	1
Gay street.....	18	1
Whittier street.....	18	1
Luby place.....	18	1
Rogers avenue.....	19	2
Heath place, rear No. 6.....	19	1
Highland street.....	19	1
Place from 59 Burney street.....	19	1
Intervale street.....	20	4
Normandy street.....	20	1
Finnegan place.....	20	1
Westville road.....	20	1
Whittemore terrace.....	20	2
Browning avenue.....	20	3
Melville road.....	20	3
Ceylon street.....	20	3
Devon street.....	20	1
Grove street.....	20	1

New Gas Lamps Erected and Lighted.—*Continued.*

LOCATION.	Ward.	Number of Lamps.
Trescott place.....	20	2
Bentham road.....	20	2
Pleasant terrace.....	20	2
Park street.....	20	1
Topliff street.....	20	1
Lawrence park.....	20	2
Faxon street.....	20	1
Radeliffe road.....	20	1
Estes place.....	20	2
Dunn court.....	20	1
Ellsworth street.....	20	1
Fenton place.....	20	1
Greenwich place.....	20	4
Bourneside street.....	20	2
Bowdoin square.....	20	1
Perth street.....	20	1
Kimball street.....	20	3
Robinson street.....	20	1
Humboldt avenue, rear No. 48.....	21	1
Bower street, rear No. 80.....	21	1
Burr Oak park.....	21	1
Dennison street.....	21	1
Waumbeck street.....	21	1
Murray avenue.....	21	1
Holborn place.....	21	1
Harold street.....	21	1
Thornton street.....	22	1
Marbury terrace.....	22	1
Evergreen street.....	22	2
Weld avenue.....	22	1
Spring Park avenue.....	22	1
Crosby square.....	22	1
Walnut avenue.....	22	1
Iffley road.....	22	2
Green street, rear of No. 168.....	22	1
Selwyn street.....	23	2
Rowe street.....	23	3
Rockwood street.....	23	4
Farrington avenue.....	23	2
Baker street.....	23	31
Martin street.....	23	3
Kittredge street.....	23	2
La Grange street.....	23	29
Bellevue street.....	23	11
Wren street.....	23	2
Maxfield street.....	23	2
Passage from Belgrade street.....	23	1
Belgrade street.....	23	4
Aldrich street.....	23	2
Lorette street.....	23	2
Elgin street.....	23	3
Oak avenue.....	23	2
Prospect street.....	23	3
Glendale road.....	23	1
Durant street.....	23	4

New Gas Lamps Erected and Lighted.—*Continued.*

LOCATION.	Ward.	Number of Lamps.
Berwick street.....	23	3
Amesbury street.....	23	2
Baker place.....	23	3
Roslindale avenue.....	23	1
Orange street.....	23	2
West street.....	23	1
Berry street.....	23	5
Autumn street.....	23	2
Bradstreet avenue.....	23	2
Williams street.....	23	7
Stedman street.....	23	2
Chilton road.....	23	1
Bradford avenue.....	23	4
Robin street.....	23	2
Linnet lane.....	23	5
Elmwood street.....	23	1
Capitol street.....	23	3
Vermont street.....	23	2
Washington street.....	23	35
Garden street.....	23	1
Cornell street.....	23	1
Keyes street.....	23	1
Mendum street.....	23	1
Belle avenue.....	23	7
Child street.....	23	5
Johnson street.....	23	7
Ashland street.....	23	3
Sumner avenue.....	23	1
Bradstreet avenue.....	23	1
Linden street.....	23	2
Denton terrace.....	23	3
South Fairview street.....	23	2
Meehan street.....	23	1
Passage from 92 Brown avenue.....	23	1
Alaric street.....	23	3
Abbott street.....	23	1
Fletcher street.....	23	2
Knoll street.....	23	2
Perkins street.....	23	1
Florence street.....	23	3
Augustus avenue.....	23	3
Wilkins place.....	23	1
Hemman street.....	23	3
Burley street.....	23	1
Hilburn street.....	23	1
Maynard street.....	23	4
Clarendon avenue.....	23	2
Dale street.....	23	7
Poplar street.....	23	7
Bellevue avenue.....	23	1
James street.....	23	4
Elmwood street.....	23	3
Gould street.....	23	1
Guernsey street.....	23	1
Stanton street.....	24	1

New Gas Lamps Erected and Lighted.—*Continued.*

LOCATION.	Ward.	Number of Lamps.
Melbourne street.....	24	2
Mountain avenue.....	24	1
Wellington Hill.....	24	7
Templeton way.....	24	2
Leslie street.....	24	2
Lafield street.....	24	2
Weyanoke street.....	24	1
Hansborough street.....	24	1
Johnston road.....	24	2
Randolph avenue.....	24	3
Greenock street.....	24	1
Lincoln street.....	24	1
Woolson street.....	24	3
Tesla street.....	24	1
Union street.....	24	3
Freeport street.....	24	1
Fenton street.....	24	1
Fenton place.....	24	1
Wessex street.....	24	1
Wentworth street.....	24	2
Preston place.....	24	2
Newhall avenue.....	24	6
Newhall place.....	24	1
Newhall street.....	24	1
Morton street.....	24	3
Fuller street.....	24	3
Codman street.....	24	3
Minot street.....	24	2
Mears street.....	24	1
Pierce avenue.....	24	2
Bushnell street.....	24	1
Vineland street.....	25	5
Rena street.....	25	2
Wexford street.....	25	7
Parker court.....	25	1
Mt. Vernon street.....	25	4
Mt. Vernon avenue.....	25	1
Dunboy street.....	25	2
Mead street.....	25	2
Holmes street.....	25	3
Eastburn place.....	25	1
Fuller court.....	25	1
Tremont street, rear 86.....	25	1
Taylor street.....	25	1
Beacon street.....	25	35
Heffernan place.....	25	1
Princeton avenue.....	25	3
Webster avenue.....	25	1
Nottingham road.....	25	3
Richards street.....	25	1
Holmes avenue.....	25	2
Colman place.....	25	2
Quint avenue.....	25	3
Colwell avenue.....	25	2

New Gas Lamps Erected and Lighted.—*Concluded.*

LOCATION.	Ward.	Number of Lamps.
Hunnewell avenue.....	25	2
Stratton street.....	25	2
Champney street.....	25	2
Reservoir avenue.....	25	2
Kelley court.....	25	1

New Fire-alarm Signal Lamps Erected and Lighted.

LOCATION.	Ward.
Congress street, corner Water street.....	6
Tremont street, opposite Mason street.....	7
Church street, corner Winchester street.....	10
Belvidere street, corner Dalton street.....	10
Beacon street, opposite Dartmouth street.....	11
A street, opposite Binford street.....	13
Blue Hill avenue, opposite Clifford street.....	16
Ruggles street, corner Parker street.....	19
Blue Hill avenue, corner Intervale street.....	20
Quincy street, corner Dacia street.....	20
Elm Hill avenue, corner Holland street.....	21

New Magnetite Arc Lamps Erected and Lighted.

LOCATION.	Ward.	Number of Lamps.
Prescott street, corner Trenton street.....	1	1
Prescott street, corner East Eagle street.....	1	1
Marginal street.....	2	1
Maverick street, corner Lamson street.....	2	1
Canal street.....	6	1
Clinton street.....	6	1
Commercial street and North street.....	6	1
Court street.....	6	1
Cooper and Endicott streets.....	6	1
Hanover street, between No. 26 and No. 30.....	6	1
Hanover street, at Board alley.....	6	1
Hanover street, between No. 168 and No. 170.....	6	1
Hanover street at North Bennet street.....	6	1
Hanover and Charter streets.....	6	1
Hawkins street, opposite No. 25.....	6	1
Salem street and Stillman street.....	6	1

New Magnetite Arc Lamps Erected and Lighted.—*Continued.*

LOCATION.	Ward.	Number of Lamps.
State street, opposite India street.....	6	1
Washington street, opposite Water street.....	6	1
Washington street, between No. 5 and No. 7.....	6	1
Congress street, between No. 195 and No. 197.....	7	1
High street, at No. 172.....	7	1
Mason street, between No. 69 and No. 71.....	7	1
Oliver street and Fort Hill square.....	7	1
Washington street, near No. 406.....	7	1
Washington street, near No. 463.....	7	1
Washington street, near No. 531.....	7	1
Charles street and Chambers street.....	7	1
Leverett street, corner Barton street.....	8	1
Nashua street, between No. 42 and No. 44.....	8	1
North Anderson street, near No. 24.....	8	1
Way street.....	9	1
Washington street and Wilkes street.....	9	1
Chandler street, near Columbus avenue.....	10	1
Ferdinand street, near No. 2.....	10	1
Huntington avenue, opposite Opera place.....	10	1
Huntington avenue and West Newton street.....	10	1
Massachusetts avenue, between No. 169 and No. 171,	10	1
Massachusetts avenue and Norway street.....	10	1
Massachusetts avenue, between Astor and Fal-		
mouth streets.....	10	1
St. Stephen street, opposite Opera place.....	10	1
St. Stephen street and Bryant street.....	10	1
Beacon street, opposite No. 76.....	11	1
Charles street, opposite No. 155.....	11	1
A street, opposite Binford street.....	13	1
Broadway, corner N street.....	14	1
Farragut road, opposite Second street.....	14	1
Farragut road, opposite Third street.....	14	1
First street, corner P street.....	14	1
Second street, between M and N streets.....	14	1
Sixth street, corner N street.....	14	1
Strandway, between K and L streets.....	14	1
Massachusetts avenue, east from railroad.....	16	2
Marshfield street and Cottage terrace.....	17	1
Massachusetts avenue, west from railroad.....	17	1
Washington and Hunneman streets.....	17	1
West Cottage street, No. 11.....	17	1
Norfolk avenue, opposite Burrell street.....	17	1
Tremont street, corner Westfield street.....	18	1
Washington street, near Winslow place.....	18	1
Huntington avenue, near No. 922.....	19	1
Roxbury street, opposite No. 265.....	19	1
Roxbury street, corner King street.....	19	1
Roxbury street, corner Roxbury terrace.....	19	1
Roxbury street, corner Malbon place.....	19	1
Adams street, opposite No. 11.....	20	1
Bowdoin street, opposite Dever street.....	20	1
Bowdoin street, opposite Greenbrier street.....	20	1
Blue Hill avenue, between Seaver street and Col-		
umbia road.....	20	1

New Magnetite Arc Lamps Erected and Lighted.—*Concluded.*

LOCATION.	Ward.	Number of Lamps.
Harvard street, near No. 43.....	20	1
Washington street, opposite Strathcona road.....	20	1
Humboldt avenue, opposite No. 29.....	21	1
Warren street, corner Dudley street.....	21	1
Warren street, opposite Munroe street.....	21	1
Columbus avenue, corner Washington street.....	22	1
Columbus avenue, corner Ashworth park.....	22	1
Columbus avenue, west from Walnut avenue.....	22	1
Centre street, opposite Lester place.....	22	1
Centre street, near May street.....	23	1
Centre street, corner Case street.....	23	1
Centre street, corner Orchard street.....	23	1
Washington street, corner Albano street.....	23	1
Washington street, corner Atherton avenue.....	23	1
Washington street, between Beech and La Grange streets.....	23	8
Adams street, opposite Lincoln street.....	24	1
Adams street, near No. 308.....	24	1
Blue Hill avenue, near railroad bridge.....	24	1
Blue Hill avenue, corner Fremont street.....	24	1
Blue Hill avenue, near Rexford street.....	24	1
Blue Hill avenue, corner Norfolk street.....	24	1
Blue Hill avenue, near No. 1589.....	24	1
Blue Hill avenue, near No. 1616.....	24	1
Centre street, opposite Clement park.....	24	1
Dorchester avenue, between Park and Gibson streets.....	24	1
Dorchester avenue, opposite Centre avenue.....	24	1
Neponset avenue, near Boutwell avenue.....	24	1
Neponset avenue, corner King street.....	24	1
Neponset avenue, corner Claymont street.....	24	1
Norfolk street, near engine house.....	24	1
River street, opposite Morton street.....	24	1
River street, between Morton and Groveland streets, streets.....	24	1
River street, near Standard street.....	24	1
River street, near Groveland street.....	24	1

New Flame Arc Lamps Erected and Lighted.

LOCATION.	Ward.	Number of Lamps.
Breed square.....	1	1
Central square.....	2	1
Maverick square.....	2	1
Adams square.....	6	1
North End Park.....	6	2
Post Office square.....	6	1
Boston Common.....	7	2
Merrimac street, corner Causeway street.....	8	1
Columbus square.....	10	1
Beacon street, junction Commonwealth avenue....	11	1
Copley square.....	11	4
Park square.....	11	2
Edward Everett square.....	16	1
Tremont street, junction Cabot street.....	18	1
Huntington avenue, junction Tremont street.....	19	1
South street, junction Centre street.....	23	1
South street, at Arborway.....	23	1
Pierce square.....	24	1

New Gilbert Arc Lamps Erected and Lighted.

LOCATION.	Ward.	Number of Lamps.
Bunker Hill street, corner Walnut street.....	4	1
Medford street, east, from North Mead street....	4	1
Wapping street, corner Maudlin street.....	5	1
Tremont street, opposite St. Paul's Church.....	7	1
Washington street at Cathedral.....	9	1
Mountfort street, opposite Audubon road.....	11	1
Castle Island.....	14	1
Kilton street, corner Athelwold street.....	20	1
Idlewild street, from Commonwealth avenue.....	25	1
North Harvard street, corner Spurr street.....	25	1
Wellington road, near Monroe road.....	25	1

New Tungsten Lamps Erected and Lighted.

LOCATION.	Ward.	Number of Lamps.
Addison street.....	1	9
Bayswater street.....	1	1
Boardman street.....	1	10
Chelsea street.....	1	1
Collins street.....	1	1
Farrington street.....	1	6
Frankfort street.....	1	2
Lubec street.....	1	2
Montmorenci avenue.....	1	8
Orient avenue.....	1	4
Overlook street.....	1	2
Prescott street.....	1	7
Swift street.....	1	1
Waldemar street.....	1	2
Webster street footbridge.....	2	2
Barrett street.....	6	3
Bath street.....	6	1
Butler's row.....	6	2
Central street.....	6	1
Chatham street.....	6	1
Clinton street, alley from.....	6	1
Corn court.....	6	2
Cornhill court.....	6	1
Congress square.....	6	1
Court avenue.....	6	2
Crab alley.....	6	1
Doane street.....	6	2
Fulton place.....	6	3
Hawes street.....	6	1
John street.....	6	3
Long wharf.....	6	4
Mercantile street.....	6	1
Water street.....	6	1
Atlantic avenue.....	7	1
Arch street.....	7	1
Batterymarch street.....	7	1
Bosworth street.....	7	1
Central street.....	7	1
Central Wharf.....	7	3
Channing street.....	7	2
Chickering place.....	7	1
Custom House street.....	7	1
Devonshire street.....	7	1
Essex street.....	7	1
Export street.....	7	1
Federal court.....	7	1
Gridley street.....	7	1
Hartford street.....	7	2
Harvard place.....	7	1
Hawley street.....	7	1
Hawley street, alley from.....	7	1
India street.....	7	1
Lowell court.....	7	1

New Tungsten Lamps Erected and Lighted.—*Continued.*

LOCATION.	Ward.	Number of Lamps.
Music Hall place.....	7	1
Oak street.....	7	1
Oliver place.....	7	1
Perkins street.....	7	1
School street.....	7	1
Sullivan place.....	7	1
Waverly place.....	7	1
Well street.....	7	2
West street, alley from.....	7	1
Winter place.....	7	1
Auburn street.....	8	1
Prospect street.....	8	1
Stanhope street.....	10	1
Marlborough street.....	11	29
A street.....	13	1
Broadway.....	13	1
Broadway, rear of.....	13	1
C street.....	13	6
Earl street.....	13	3
Fargo street.....	13	2
Farnsworth street.....	13	5
Gold street.....	13	3
Summer street, rear of.....	13	1
First street.....	14	2
Flint place.....	14	1
H street.....	14	1
K-street place.....	14	1
N-street court.....	14	1
Vicksburg street.....	14	1
Alger street.....	15	4
Dunham street.....	15	3
Columbia road, rear of.....	15	1
Linden place.....	15	1
Tuckerman street.....	15	2
Baker court.....	16	1
Boston place.....	16	2
Baker place.....	16	2
Carpenter street.....	16	2
Centre place.....	16	1
Champney street.....	16	1
Dexter court.....	16	1
Field court.....	16	1
Rogers street.....	16	3
Wesley street.....	16	1
Willow court.....	16	6
Atkinson street.....	17	7
Chesterfield street.....	17	2
Lansdowne street.....	17	2
Massachusetts avenue.....	17	2
Clifton place.....	18	1
Weston street, alley from.....	18	1
Columbus avenue.....	19	1
Huntington avenue.....	19	1
Tremont street.....	19	1
Harvard street.....	20	1

New Tungsten Lamps Erected and Lighted.—*Continued.*

LOCATION.	Ward.	Number of Lamps.
Powellton road.....	20	2
Vaughan avenue.....	20	2
Columbus avenue.....	22	1
Lockstead avenue.....	22	9
Lakeville place, rear.....	22	1
Perkins street.....	22	1
Allandale street.....	23	11
Arnold street.....	23	17
Ashland street.....	23	15
Austin street.....	23	5
Baker street.....	23	11
Berry street.....	23	4
Billings street.....	23	4
Brahms street.....	23	3
Brook avenue.....	23	1
Brook street.....	23	2
Bridge street.....	23	2
Bourne street.....	23	3
Canterbury street.....	23	46
Centre street.....	23	30
Chapin avenue.....	23	4
Church street.....	23	17
Cornell street.....	23	5
Cottage avenue.....	23	12
Dwinell street.....	23	1
Florence street.....	23	7
Gardner street.....	23	7
Gilman street.....	23	2
Grove street.....	23	20
Grover street.....	23	4
Guernsey street.....	23	3
Hamilton street.....	23	3
Harvard street.....	23	45
Hunter street.....	23	1
La Grange street.....	23	22
Lawn street.....	23	2
Louder's lane.....	23	2
May place.....	23	1
Morrison street.....	23	7
Morton street.....	23	29
Moss Hill road.....	23	4
Mount Hope street.....	23	8
Neponset court.....	23	1
Neponset avenue.....	23	5
Newbern avenue.....	23	5
Newfield street.....	23	2
Paine street.....	23	6
Partridge street.....	23	4
Quail street.....	23	4
Roberts avenue.....	23	1
Seaver street.....	23	1
Sparrow street.....	23	2
Springvale street.....	23	1
Shaw street.....	23	6
Swallow street.....	23	7

New Tungsten Lamps Erected and Lighted.—*Concluded.*

LOCATION.	Ward.	Number of Lamps.
South street.....	23	26
Sutton street.....	23	3
Vermont street.....	23	3
Walnut street.....	23	1
Walter street.....	23	9
Walk Hill street.....	23	29
Weld street.....	23	19
Worley street.....	23	3
Yorktown street.....	23	2
Bearse avenue.....	24	6
Bellows place.....	24	1
Branch avenue.....	24	2
Chester street.....	24	5
Coffey street.....	24	5
Cook's court.....	24	2
Crossman street.....	24	1
Everdean street.....	24	2
Freeport street.....	24	3
Fremont place.....	24	3
Grant place.....	24	2
Groveland street.....	24	5
Haven street.....	24	2
Hopkins place.....	24	2
Huntoon street.....	24	3
Malta street.....	24	2
Manchester street.....	24	5
Marsh street.....	24	11
Medway street.....	24	5
Menton street.....	24	2
Morton street.....	24	9
Neponset avenue.....	24	1
Oakland court.....	24	1
Oakland street.....	24	20
Oakland place.....	24	1
Randolph road.....	24	4
Regent road.....	24	3
Richmond road.....	24	6
River street.....	24	3
Riverside place.....	24	2
Roland road.....	24	6
Rockway street.....	24	1
Rockingham road.....	24	3
Ruggles place.....	24	2
St. Gregory's court.....	24	2
Standard street.....	24	4
Sturbridge street.....	24	3
Vose street.....	24	4
Walnut street.....	24	1
Commonwealth avenue.....	25	1
North Beacon street.....	25	1

LIGHTING SCHEDULE.

The following table shows the time of lighting and extinguishing the gas lamps for the different months of the year:

DATE.		Light At. P. M.	Put Out. A. M.	Number of Hours Burning.
January	10 to 14.....	4.15	6.00	13 $\frac{3}{4}$
	15 to 21.....	4.30	6.00	13 $\frac{1}{2}$
	22 to 31.....	4.45	6.00	13 $\frac{1}{4}$
February	1 to 4.....	4.45	6.00	13 $\frac{1}{4}$
	5 to 9.....	5.00	6.00	13
	10 to 11.....	5.00	6.00	13
	12 to 25.....	5.15	5.45	12 $\frac{1}{2}$
	26 to 28.....	5.30	5.30	12
March	1 to 9.....	5.30	5.30	12
	10 to 26.....	6.00	5.00	11
	27 to 31.....	6.15	4.30	10 $\frac{1}{4}$
April	1 to 9.....	6.15	4.30	10 $\frac{1}{4}$
	10 to 23.....	6.30	4.15	9 $\frac{3}{4}$
	24 to 30.....	6.45	4.00	9 $\frac{1}{4}$
May	1 to 6.....	6.45	4.00	9 $\frac{1}{4}$
	7 to 9.....	7.00	3.30	8 $\frac{1}{2}$
	10 to 21.....	7.00	3.30	8 $\frac{1}{2}$
	22 to 31.....	7.00	3.00	8
June	1 to 3.....	7.00	3.00	8
	4 to 9.....	7.15	3.00	7 $\frac{3}{4}$
	10 to 30.....	7.15	3.00	7 $\frac{3}{4}$
July	1 to 9.....	7.15	3.00	7 $\frac{3}{4}$
	10 to 31.....	7.15	3.00	7 $\frac{3}{4}$
August	1 to 9.....	7.00	3.15	8 $\frac{1}{4}$
	10 to 21.....	7.00	3.15	8 $\frac{1}{4}$
	22 to 31.....	6.30	3.45	9 $\frac{1}{4}$
September	1 to 9.....	6.30	3.45	9 $\frac{1}{4}$
	10 to 11.....	6.30	3.45	9 $\frac{1}{4}$
	12 to 19.....	6.00	4.00	10
	20 to 30.....	5.45	4.15	10 $\frac{1}{2}$
	1 to 9.....	5.30	4.30	11
October	10 to 22.....	5.15	4.45	11 $\frac{1}{2}$
	23 to 31.....	4.45	5.00	12 $\frac{1}{4}$
November	1 to 9.....	4.30	5.00	12 $\frac{1}{2}$
	10 to 25.....	4.15	5.15	13
	26 to 30.....	4.15	5.45	13 $\frac{1}{2}$
December	1 to 9.....	4.00	5.45	13 $\frac{3}{4}$
	10 to 24.....	4.00	5.45	13 $\frac{3}{4}$
	25 to 31.....	4.15	6.00	13 $\frac{3}{4}$
January	1 to 9.....	4.15	6.00	13 $\frac{3}{4}$

OUTAGES ON STREET LAMPS.

Outages for lamps not lighted on schedule time or out before the proper time were reported as follows: 18,075 are outages, 6,891 tungsten outages, 1,748 gas outages and 345 naphtha outages — a total of 27,059.

Rebates have been received as follows on the various monthly bills:

DATE.	Gas and Naphtha.	Electric.
February 1.....	\$9 12	\$39 77
March.....	10 12	96 09
April.....	6 61	127 61
May.....		60 52
June.....	2 03	146 80
July.....	3 43	92 98
August.....	45	48 52
September.....	65	97 40
October.....		215 48
November.....		256 20
December.....	13 52	492 10
January, 1910.....	12 03	370 39
Totals.....	\$57 96	\$2,043 86

Underground Work.

	Set for New Lamps.	Set in Place of Broken Ones.	Set in Place of Brackets.	Shift to New Location.	Straight- ened.	Reset to Line and Grade.	Removed.	Repaired.	Laid.	Relaid.	Recon- nected.	Cleared.	Set in Place of Posts.
Gas posts.....	578	47	10	36	586	128	170	1	.....	.....	.....	.....	.....
Naphtha posts.....	.....	.....	.....	.....	.....	.....	723	.....	.....	.....	.....	.....	.....
Arc posts.....	1,357	.....	3	65	11	11	1,284	.....	.....	.....	.....	.....	.....
Tungsten posts.....	52	.....	.....	.....	1	7	.....	.....	.....	.....	.....	.....	.....
Gas brackets.....	5	.....	.....	.....	.....	.....	41	4	.....	.....	.....	.....	.....
Incandescent fixtures....	841	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	9
Arc fixtures.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fire-alarm posts.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Services.....	.....	.....	.....	.....	.....	.....	312	181	676	36	7	504	.....
Risers.....	.....	.....	.....	.....	.....	.....	23	.....	7	.....	.....	.....	.....

EMPLOYEES.

There are ten men employed in the division as follows: Deputy superintendent, clerk, messenger, stenographer, four inspectors, one watchman and one lamplighter for inverted mantle lamps.

The lamplighters are employed by the lighting company having the contract with the city.

EXPENDITURES FOR YEAR 1909-10.

*Electric Lighting:**Arc.*

Edison Electric Illuminating Company	\$320,671 96	
Charlestown Gas & Electric Company	28,197 48	
Boston Consolidated Gas Company	27,915 89	
		\$376,785 33

Incandescent.

Edison Electric Illuminating Company	\$11,575 84	
Boston Consolidated Gas Company	342 49	
New York Central & Hudson River Railroad Company	55 66	
		11,973 99

\$388,759 32

Gas Lighting:

Boston Consolidated Gas Company	\$77,459 61
Charlestown Gas & Electric Company	4,138 44
East Boston Gas Company	4,468 97

Total for gas \$86,067 02

Carried forward \$86,067 02 \$388,759 32

<i>Brought forward</i>	\$86,067 02	\$388,759 32
Rising Sun Street Lighting Company:		
Lighting and care, \$137,583 63		
Lighting, care and gas	64,328 30	
	201,911 93	
		287,978 95
<i>Naphtha Lighting:</i>		
Rising Sun Street Lighting Company		20,061 68
<i>Salaries and Wages:</i>		
Deputy superintendent and clerk,	\$3,800 00	
Inspectors	3,456 00	
Messenger, stenographer, watchman	2,319 20	
		9,575 20
<i>Construction:</i>		
Underground work	\$5,210 60	
Wrought-iron work	89 00	
Electric changes	47 66	
Lamp-posts	63 00	
		5,410 26
<i>Experimental Gas Installation:</i>		
Lanterns and fixtures	\$1,021 77	
Post extensions	985 00	
		2,006 77
<i>Photometric Tests, etc.:</i>		
Laboratory and street work	\$659 69	
Apparatus	404 59	
Consulting and electrical engineer (contracts and photometric work)	1,421 52	
		2,485 80
<i>Horse Keeping:</i>		
Shoeing, repairs on harness and carriage		1,110 78
<i>Signs:</i>		
Glass signs and numbers	\$381 36	
Wooden signs	870 36	
		1,251 72
Traveling expenses		318 46
Printing, stationery and periodicals		287 71
Telephone		146 27
<i>Carried forward</i>		\$719,392 92

<i>Brought forward</i>	\$719,392 92
Advertising	129 66
Plans	36 50
Tools	15 83
Total	<u>\$719,574 91</u>

REVENUE.

Rent of shop	<u>\$1,200 00</u>
------------------------	-------------------

AGREEMENT FOR ELECTRIC STREET LIGHTING SERVICE.

The City of Boston, through its duly authorized representative, hereby applies to the Edison Electric Illuminating Company of Boston for all its electric street lighting service, to be rendered by said company pursuant hereto and subject to the terms and conditions annexed, all things to be furnished or done to the reasonable satisfaction of the Superintendent of Streets.

Location of Lamps.—As now installed in the City of Boston or as hereafter ordered in by the proper authority.

Description of District Supplied.—All parts of the City of Boston except those districts formerly Charlestown, Brighton and part of Brookline, and including those districts respectively, if and when said Edison Company shall, during the continuance of this agreement, purchase the electric distributing systems located therein.

Description of Service:

79	40 candle power incandescent lamps.	
205	60 " " " "	
2	80 " " " "	
0	425 watt A. C. arc lamps.	
3,183	*400 candle power Gilbert	*500 watt D. C. arc lamps.
40	*800 " " magnetite	*500 " D. C. " "
6	*1,600 " " General Electric	*500 " D. C. " "

If the company shall, during the continuance of this agreement, purchase the existing electric distributing systems in either or any of those districts of the city above excepted, the public lamps then installed in said district or districts shall be added to the number of lamps as above applied for, or as afterwards increased, and shall come under the operation of this agreement; and the company will, upon demand, as soon as practicable thereafter, without charge to the city, substitute for such lamps other lamps of standard types.

* Average.

The company shall substitute, without charge to the city, magnetite lamps for Gilbert lamps at a rate not exceeding 100 per week, and General Electric lamps for Gilbert lamps at a rate not exceeding 10 per week; such magnetite lamps, up to 1,200, to be installed upon standard twenty-five-foot poles and such General Electric lamps, up to 100, to be installed upon standard forty-foot poles; the remainder on the existing standard eighteen-foot poles; such changes to be made at the above specified rate until not more than five hundred (500) Gilbert lamps remain in the territory covered by this contract and any extension thereof. In the application of the second clause of the 7th of the Terms and Conditions, hereto attached, one General Electric lamp shall be counted as equal to three Gilbert lamps or magnetite lamps.

The following is substituted for the provision for arbitration set out in the last clause of the 3d of the Terms and Conditions, viz.:

“At any time during the continuance of this agreement the city or the company may demand an investigation of the question,—whether the cost to the company, including depreciation and interest on investment, of furnishing the service to the city called for hereby is, at the time of such investigation, less than at the date of this agreement; and if so, how much. In determining that issue the investigators may take into consideration the cost to the company of any or all other parts of its supply and any other pertinent facts and conditions which they may deem important. Such investigation or investigations shall be made by the then head professors of applied electricity, by whatever titles known, of the Massachusetts Institute of Technology and the scientific department of Harvard University, if able and willing to serve. In case either is unable or unwilling to serve his substitute shall be named by the then president of said institute or university, as the case may be. In case of any disagreement between said investigators they may call in an arbitrator of their own selection. The decision of said investigators, or of either of them and said arbitrator, shall be binding upon the city and the company until the Supreme Court of Massachusetts has decided that the constitutional rights of either are thereby infringed.”

The following is substituted for the 5th of the Terms and Conditions hereto attached:

“The municipality may, at any time, by written notice, require the company to employ a competent and disinterested person connected with either the Massachusetts

Institute of Technology or the scientific department of Harvard University to examine and test the electrical currents and apparatus employed in furnishing the lighting service herein provided for, to ascertain whether or not the company is complying with the terms of this agreement, and for such purpose such person may have access at all reasonable times to the lamps, poles, wires, fixtures and other apparatus of the company used in carrying out this agreement.

"In case two tests of any circuit or lamp shall be made, separated by an interval of not less than one hour, during any one night, and both of said tests shall prove that the company is not furnishing the electrical energy or light required by this agreement, then such circuit or such lamp shall be deemed to be outages as provided herein. If such tests show that the company is not furnishing the electrical energy or light required by this agreement, the company shall pay the expense of the examination and test herein provided for; otherwise the municipality shall pay such expense."

If the city notifies the company within six months from the time when this contract becomes operative that it desires to extend the contract to a period of ten years, the company will make the rates under this contract the same as those proposed under a ten-year contract, that is, the discount to be ten per cent instead of five,—this discount to be retro-active from the date when the contract becomes operative, that is, the difference between the amount which shall have been paid under the discount of five per cent and the amount which would have been paid had the discount been ten per cent shall be deducted from subsequent payments. In event of such extension of the contract the limit placed upon the number of new poles to be installed for the magnetite and General Electric lamps is to be abolished.

And said municipality agrees to be bound by the street lighting terms and conditions of the company, printed herewith, except as aforesaid, and to pay the prices called for in the company's Schedule M C 5, printed herewith, until April 1, 1914, and thereafter until one year after written notice by either party to the other of its election to terminate this agreement, which notice may be given at any time after the beginning of the one-year period next preceding the expiration of the original period above fixed.

This agreement shall take effect as of April 1, 1909, and is subject to appropriations for street lighting. This agree-

ment is in substitution for and in place of a preceding agreement between the same parties dated April 1, 1909.

Boston, May 5, 1909.

(Signed) CITY OF BOSTON,

By GUY C. EMERSON,
Superintendent of Streets.

Approved May 7, 1909.

G. A. HIBBARD,
Mayor of Boston, Mass.

The foregoing application is hereby accepted upon the terms and for the period above specified.

THE EDISON ELECTRIC ILLUMINATING COMPANY
OF BOSTON,

By CHARLES L. EDGAR,
President.

Boston, May 5, 1909.

Form of contract and bond approved.

THOMAS M. BABSON,
Corporation Counsel.

YEARLY STREET LIGHTING RATES.

Schedule M C 5.

Electricity for street lighting use will be sold to municipalities under the street lighting terms and conditions as printed herewith, in accordance with the following table:

DESCRIPTION OF LAMP.	Fixed Costs, per Lamp per Year.	Running Costs per Lamp- Hour.	B.
40 c.p.....	Inc. lamp \$10 80	$\frac{1}{2}$ cent	\$19 35
60 "	" 12 00	$\frac{3}{10}$ "	22 31
80 "	" 14 00	$\frac{4}{10}$ "	27 85
425 watt A. C.....	Arc lamp 36 00	$1\frac{5}{10}$ cents	88 75
*400 c. p. Gilbert *500 watt D. C....	" 36 00	$1\frac{9}{10}$ "	92 39
*800 c. p. †magnetite *500 watt D. C..	" 42 00	$1\frac{1}{2}$ "	103 54
*1,600 c. p. ‡Gen. Elec. *500 watt D. C..	" 42 00	$3\frac{2}{10}$ "	156 27 A

* Average.

† This magnetite lamp gives twice the candle power of the Gilbert lamp at 25° below the horizontal.

‡ This General Electric lamp gives four times the candle power of the Gilbert lamp at 25° below the horizontal.

A These running costs include the present cost to the company of electrodes (carbons) and trimming of General Electric lamps. If the costs to the company of these two items are reduced during the continuance of this agreement, corresponding reductions will be made to the municipality from time to time, but the running costs shall not thereby be reduced to less than $1\frac{1}{2}$ cents per lamp-hour.

B Total costs for 3,828 hours per year, after taking off a discount of 5 per cent.

First Deduction.—A rate of 1 cent per hour per incandescent lamp and 5 cents per hour per arc lamp will be allowed for all outages in any month, provided written notice of same is received by the company on or before the 5th of the succeeding month.

Second Deduction.—When agreements are made for periods longer than one year a discount of 1 per cent per year will be allowed for each year up to ten.

The Gilbert Standard lamp shall be operated at 6.6 amperes and a pressure of 76 volts at the terminals. There may be a permissible variation of 0.1 amperes and 5 volts from the above standard.

STREET LIGHTING TERMS AND CONDITIONS.

The foregoing agreement is subject to the following terms and conditions:

1. The lamps, poles, wires, fixtures and other apparatus, appliances and materials necessary for the performance of this agreement, except posts for incandescent lamps supplied from underground circuits, shall be furnished by the company and kept in good order and condition by it. The lamps shall give a clear and steady light. The company shall furnish electrodes (carbons) for and trim all arc lamps, and will renew incandescent lamps whenever they become dim, broken or burned out.

2. Payments hereunder shall be made monthly on the regular pay day of the municipality.

3. The company will give the municipality the benefit of any lower prices for service such as that herein provided for, or of any better quality or efficiency of service, which may at any time during the continuance of this agreement be enjoyed by any municipality served by it, such relative prices, quality and efficiency to be determined by taking into consideration all the circumstances and conditions in both cases. Upon written demand by the municipality the company shall thereafter give to the municipality the benefit of two-thirds of any general reduction in the present cost to the company, including depreciation and interest on investment, of supplying the service called for by this agreement, but only so long as and to the extent that such decreased cost shall continue. If at any time during the continuance of this agreement the company and the municipality shall disagree upon any matter embraced in this term and condition, it shall be referred to the arbitration of three disinterested persons, selected one by the municipality, one by the company and the third by the

other two, a decision of a majority of whom shall be binding upon the parties, provided the constitutional rights of either party shall not thereby be infringed.

4. The company will indemnify and save harmless the municipality against any and all claims for damages, loss, cost and expense on account of injury to persons or property arising in any way out of the erection, construction, maintenance or use of any of the lamps, poles, wires, fixtures and other apparatus and appliances furnished by the company hereunder, except where such injury is the result, in whole or in part, of the fault or neglect of the municipality, its officers, servants or agents, while acting as agents of the municipality; and against any and all claims for damages by reason of any alleged infringement of patent rights in the use of lamps, poles, wires, fixtures, machinery and other apparatus, appliances and material supplied by the company hereunder; and will, at its own expense, assume the defence of all actions at law or in equity which may be brought against the municipality upon any claims as aforesaid, and also against all decrees, judgments and orders of any court based thereon.

5. The municipality may at all times, with or without the company's knowledge, employ a competent person to examine and test the electrical currents and apparatus employed in furnishing the lighting service herein provided for, to ascertain whether or not the company is complying with the terms of this agreement, and for such purpose the company agrees that such person may have access at all reasonable times to said lamps, poles, wires, fixtures and other apparatus of the company used in carrying out this agreement.

The municipality will indemnify and save harmless the company against any and all claims for damages, loss, cost and expense on account of injury to persons or property arising in any way out of the employment, act or neglect of any such person, except such as may arise, in whole or in part, from the fault or neglect of the company, its agents or servants, while acting as agents of the company.

In case two tests of any circuit or lamp shall be made, separated by an interval of not less than one hour, during any one night, and both of said tests shall prove that the company is not furnishing the electrical energy or light required by this agreement, then such circuit or such lamp shall be deemed to be outages as provided herein.

6. Such additional lamps shall be installed, without charge to the municipality, as may be designated by the municipality at any time before notice is given to terminate

this agreement, provided the company shall not be required to extend its lines more than 400 feet overhead, or in localities served by underground construction more than 100 feet underground, to reach any lamp; but the municipality may require extension of lines for additional lamps at any time during the term of this agreement by paying the cost of so much of the extension as exceeds that herein required to be made by the company, such payments to apply as credits on future bills for lighting on such additional lines. Whenever requested by the municipality the company will change the location of any lamps at the expense of the municipality, not exceeding, however, \$5 for each arc lamp and \$3 for each incandescent lamp so moved, unless new lines or poles are required.

7. The discontinuance of any street or highway shall have the effect of discontinuing whatever lamps may have been located on such street or way. The municipality may at any time discontinue a lamp or lamps for reasonable cause, but the number of lamps of any type in service at any time shall not, except as hereinbelow provided, be less than 95 per cent of the maximum number of such lamps in service under this agreement at any time prior thereto. In case of such discontinuance the installation of any lamps at other locations shall be charged for the same as changes of locations under Article 6 hereof until the original number installed shall again have been reached. Lamps of any type may be substituted for lamps of any other type if the municipality pays the total expense of making the change and the total amount of payments by the municipality hereunder at the then standard rates is not thereby diminished.

8. Should the municipality at any time find that the company is not complying fully with the terms and requirements of this agreement, the municipality shall immediately notify the company of such fact, and the company shall at once remedy the fault, but failure to give such notice shall not impair any obligation of the company. But the company shall not be responsible for any failure to supply electricity if such failure is without default or neglect on its part.

9. If the municipality shall at any time during the continuance of this agreement be required to purchase the whole or any part of the plant of the company located within the limits of said municipality, under the present law, or any amendment thereof, the municipality shall not be holden for the unexpired term of this agreement, nor shall this agreement or the unexpired term thereof be in any way considered as an element of value in such purchase; provided, however,

that in case of such purchase the municipality shall not be entitled to the full discount provided for in this agreement unless it shall have been in operation for the full period thereof. If the agreement shall not have been in operation for the full period thereof, because of such purchase, the accounts between the municipality and the company shall be adjusted so as to make the total net payments by the municipality to the company what they would have been if the agreement had been made for the period during which it was actually in operation.

CONTRACT.

FOR LIGHTING WITH GAS AND NAPHTHA INCANDESCENT
MANTLE LAMPS CERTAIN STREETS, PARKS AND ALLEYS
IN THE CITY OF BOSTON.

The City of Boston having herewith entered into a contract for lighting with gas and naphtha incandescent mantle lamps certain streets, parks and alleys in said city upon the conditions set forth in the annexed specifications, the undersigned Rising Sun Street Lighting Company, hereinafter referred to as the contractor, declares that the only persons interested in this contract as principals are named herein as such; that no official of the city, and no person acting for or employed by the city, is directly or indirectly interested therein, or in any contract which may be made thereunder, or in any expected profits to arise therefrom; the contractor has carefully examined the annexed specifications, and he hereby bids in accordance therewith and agrees to do all the work set forth in said specifications at the following prices:

Schedule of Prices.

KIND OF LAMP.	Price per Annum.	
Single gas incandescent burners	\$23 60	With gas.
Single gasolene or naphtha incandescent burners,	29 20	
A lantern with two gas incandescent burners . . .	35 20	With gas.
A lantern with three gas incandescent burners . . .	47 60	With gas.
Lighting and care of open gas-flame fire-alarm signal lamps	10 50	Without gas.

The full names and residences of all the persons interested in this contract as principals are as follows:

Rising Sun Street Lighting Company, Boston, Mass.

Peter J. Fitzgerald, *President and General Manager.*

Robert J. Gove, *Treasurer.*

NOTICE.—Give first and last names in full, and in case of corporations give the names of president, treasurer and manager or local agent, if any.

The corporation is of the State of Maine.

The name and address of the surety company which will sign the bond are:

Signed this.....

Signature of contractor:

Accepted. CITY OF BOSTON,

By GUY C. EMERSON,

Superintendent of Streets.

Form of Contract and Bond approved:

Corporation Counsel.

Approved:

Mayor.

BOND.

The undersigned surety company binds itself, its successors and assigns, to pay to the City of Boston the sum of twenty-five thousand (25,000) dollars.

This obligation is upon the condition that if the party to the contract hereto annexed, therein called the contractor, shall faithfully perform the said contract in accordance with the terms thereof, and do everything of him therein required, and shall fully protect the city against any infringements of patents, or any other suits in connection with or

growing out of the performance of said contract, then this obligation shall become of no effect. Otherwise it shall continue in full force.

Signed, sealed and delivered.....

The Corporation is of the State of.....

The President is.....

The Treasurer is.....

The place of business in Boston is.....

SPECIFICATIONS.

1. By the city is meant the City of Boston, acting through the Superintendent of Streets or such subordinate or other officer as may have charge of street lighting in said city. By the contractor is meant the Rising Sun Street Lighting Company.

2. *Work to be Done.*—The work to be done under this contract shall consist of supplying all the material, labor and equipment necessary and required (except the posts and service pipes) to light with gas or naphtha incandescent lamps such streets, parks, alleys and public places as may from time to time be designated by the city during the continuance of this contract, from September 16, 1909, to January 31, 1910. He must also light, extinguish and keep clean such open-flame fire-alarm signal lamps as the City may from time to time establish.

3. *Plant to be Furnished by Contractor.*—The contractor must furnish his own plant to do the work, and the necessary equipment shall be placed upon such gas posts as may be furnished and from time to time indicated by the city. The said plant and all appurtenances so furnished by the contractor shall remain his property and must be removed by him at the expiration of the contract at his own expense.

If, in the opinion of the city, the contractor does not exercise due diligence, or if the materials or service furnished therefor are not to the satisfaction of the city, the city may give the contractor notice in writing of such dereliction, and then if the contractor fails within thirty days thereafter to obey any proper order of the city in connection with the

work, the said Superintendent, with the consent in writing of the Mayor, may declare the contract forfeited.

4. *Lamp-posts.*—The posts on which the contractor is to place and operate his lanterns will, together with the service pipes, be furnished by the city free of expense to the contractor. They shall be neatly painted by the contractor such color as the city may designate, and shall be repainted from time to time whenever, in the opinion of the city, it shall be deemed necessary. The posts must be kept free from dirt and must not be used for advertising purposes. The city will set, connect and keep the posts in good repair and plumb.

The contractor must furnish cross-arms on such posts as the city may designate.

5. *Lanterns.*—The lanterns must be of boulevard pattern, and so constructed that the lights therein will be protected against insects and wind and weather.

6. *Burners and Mantles.*—The burners to be used must be first class in material and workmanship, furnishing at all times when in service a steady, clear, white light, free from smoke, of the required candle power.

If the burners shall not give continuously the required candle power they must be replaced by the contractor with burners that will. No incandescent mantle will be permitted to be used unless composed of the best material and standard weave and of first-class quality in all respects.

No incandescent mantle shall be used by the contractor which will shrink beyond reasonable dimensions from the standard required; and all broken, smoked or blackened, ragged or frayed mantles must be at once replaced with new mantles by the contractor.

7. *Time of Lighting.*—The lamps must be lighted and extinguished in accordance with a schedule to be furnished by the city, said schedule not to exceed four thousand burning hours per lamp per year. The lamps must be lighted within one hour from the time fixed in the schedule as the time for beginning, and must be extinguished within one hour from the time fixed in the schedule as the time for beginning to extinguish.

In order that the city may determine whether the gas or naphtha lamps are lighted and extinguished in accordance with the official schedule or time table hereinbefore mentioned, the contractor shall furnish the said official with maps or lists showing the number and geographical location of each lamp in the district of each lamplighter, and desig-

nating the particular lamp at which each lamplighter commences to light and also the lamp at which he completes the lighting, and in extinguishing the lamps the lamplighter shall begin and finish at the same lamps as are designated for beginning and finishing points on any lamp district during the term of contract.

The lamplighters or other employees of the contractor will not be permitted to climb the lamp-posts for the purpose of lighting the lamps, or for any other purpose, except by use of a ladder.

For every light that does not burn continuously at the proper candle power throughout the hours prescribed each night a sum equal to $\frac{2}{365}$ of the contract price, per lamp, per year, for each night's failure will be deducted from the amounts due the contractor and forfeited to the city. These "outs" will be reported by the Police Department at its respective police stations daily, in writing, open to the contractor, and shall be regarded as final and binding upon the contractor, errors proven or admitted excepted.

8. *Repairs and Maintenance.*—The contractor must at his own expense keep the entire plant in good repair and maintain same to the satisfaction of the city. Upon failure of the contractor to promptly make any and all necessary repairs (including repainting of lanterns and posts), the city may cause same to be done and deduct the cost thereof from any amounts that may become due to the contractor. All glass must be cleaned at least once a week, and oftener if necessary to do so, in order not to retard or diminish the candle power of the lamps. All broken or displaced glass, and all broken or defective mantles, must be replaced forthwith, and all street lamps must be constructed so that present signs may be attached, and shall, after each cleaning, be replaced, with the signs facing the proper street. All broken or displaced glass shall be removed forthwith by the contractor.

The contractor shall report, in writing, at the office of the official in charge of street lighting, on Thursday of each week, the number of each kind of lamps lighted on each of the preceding seven nights, and on the tenth day of each month the number of each kind lighted, as aforesaid, on each night subsequent to the last report, stating in each report the name of each person lighting the lamps, and the locations of any and all lamps added to or removed from the district of each lamplighter, and is to notify said official, in writing, of any damage to or repair needed to the posts or service pipes.

The contractor will be allowed the entire use of the Lamp Department shop, No. 690 Albany street, at a rent of \$100 per month.

9. *Removal of Lamps.*—Whenever ordered to do so by the city the contractor must change the location of lamps, weather permitting, from one place to another (posts to be furnished by the city ready to receive lamp), at his own cost and expense.

10. *New Lamps.*—The city may, from time to time, order the erection and maintenance of new or additional lamps, at such locations as it may deem proper, and it shall be the duty of the contractor, at his own cost and expense, to properly erect upon said posts furnished, placed and connected by the city, and put into operation, such additional lamps and maintain the same in all respects as called for in these specifications. All additional lamps ordered shall be put in service within ten days after they are ordered and posts set and connected, and notice that the same are in service shall be given by the contractor to the city.

11. *Discontinuance of Lamps.*—The city shall have the right to increase or diminish the number of lamps furnished under the contract, but, subject to the provisions of Section 14 of these specifications, it is understood that the total number of gas and naphtha lamps to be furnished under this contract shall not at any time be less than 10,000.

Naphtha or gasolene lamps may be changed to gas lamps at the discretion of the city, when the gas post and service connections are ready therefor. When orders to discontinue lamps are given, in accordance with the above, the contractor must put them out of service within five days, and notify the City of Boston in writing; payment for the same shall cease on such discontinuance, and when the contractor removes a gas lantern without substituting another therefor he shall properly plug the service pipe so that the gas will not escape therefrom.

12. *Candle Power.*—All the burners, whether of gas, gasolene or naphtha, must be maintained continuously when in service at not less than sixty actual candle power. The city shall have the right at any time to test the lights in the usual accepted manner by standard photometric tests, and if there is found any deficiency the contractor must proceed at once to remedy the defects and raise the burners to the required candle power.

13. *Supply of Gas.*—The contractor shall furnish all the gas required for the lamps, and if at any time by reason of a reduction by any gas company in the price of gas the con-

tractor shall procure his gas at a lower average price per lamp for the whole number of lamps lighted than the average price paid for gas by the contractor when the system provided for herein is fully installed, the rate paid by the city shall be reduced by the amount of the reduction in the price of gas so secured at and from the time of said reduction to the contractor.

14. *Extension of Contract.*—The city may, at its option, to be signified in writing not later than February 1, 1910, extend the term herein designated for the continuance of the contract for a period not exceeding six months, so that there may be no interruption of service in case the city enters into a new contract involving other parties or different equipment, or both. For this purpose the city may call upon the contractor, at any time within the last three months of the extended period, to discontinue the lighting of the entire area covered by his operations or of such parts thereof as the city may from time to time determine, provided, however, that such parts shall be so arranged that no fraction of any established lamplighter's route shall require lighting for a longer period than two nights and that not less than two weeks' notice shall be given the contractor in regard to each of such part.

The contractor shall promptly remove his equipment from all posts on which lighting has been discontinued and co-operate with the city in recording the dates on which lighting ceased.

15. *Naphtha or Gasolene.*—The contractor shall furnish all the gasolene or naphtha which may be necessary to supply incandescent mantle gasolene or naphtha street lamps at such locations as the city may from time to time direct, and furnish with posts for the purpose.

The contractor will be required to supply each lamp each night with a sufficient quantity of gasolene or naphtha to insure the standard of light herein contracted for at all times during the hours of burning.

The gasolene or naphtha used in supplying the lamps must be of the very best grade, free from water, gum, glue or other impurities.

16. *Payments.*—Payment for the work performed under this contract shall be made by the city monthly, in the same manner as other city work is paid for, at the rates specified in the proposal and subject to appropriations.

17. *Miscellaneous.*—The contractor shall allow his employees to lodge, board and trade wheresoever and with whomsoever they may choose, and shall give preference in

employment, first to citizens of the City of Boston, second to citizens of Massachusetts, and shall save the city and its agents and employees harmless from any and all claims against them or any of them arising from any act, omission or neglect of the contractor, his agents or employees in carrying on the contract, and no workman, laborer or mechanic employed on this work within the Commonwealth shall be requested or required to labor more than eight hours in any one calendar day.

Any assignment, sub-letting or otherwise permitting the work herein specified to be done by any one other than the contractor, or encumbering the work or plant by mortgage or in any way, will be sufficient cause for the abrogation of the contract by the city.

APPENDIX D.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE SANITARY DIVISION, INCLUDING STREET
CLEANING AND WATERING SECTIONS.ROOMS NOS. 917-920 TREMONT BUILDING,
BOSTON, MASS., February 1, 1910.MR. GUY C. EMERSON,
Superintendent of Streets:

DEAR SIR,— I respectfully submit the annual report of the expenditures, income and operation of the Sanitary Division (including the Sanitary and Street Cleaning and Watering Sections) of the Street Department for the year ending January 31, 1910.

Respectfully submitted,

GEORGE H. FOSS,
Deputy Superintendent.

SANITARY SERVICE.

FINANCIAL STATEMENT.

SANITARY APPROPRIATION.

Amount of appropriation	\$663,000 00
Less amount unexpended	25,744 07

Net amount of appropriation	<u>\$637,255 93</u>
---------------------------------------	---------------------

Total expenditures of the Sanitary Section, including work done for other divisions and paid by them	\$692,697 79
--	--------------

Less amounts paid by other divisions	55,441 86
--	-----------

Net cost of maintenance, Sanitary Section	<u>\$637,255 93</u>
---	---------------------

TOTAL COST ON HOUSE DIRT, ASHES, WASTE AND RUBBISH
AND HOUSE OFFAL.

Salaries, deputy superintendent and office force,	\$13,104 12
Office supplies and expenses	7,449 08
Ashes, waste and rubbish account	414,161 58
House offal account	205,287 10

<i>Carried forward</i>	<u>\$640,001 88</u>
----------------------------------	---------------------

Brought forward \$640,001 88

CONSTRUCTION, REPAIR AND HORSESHOEING
ACCOUNT.

Foremen	\$644 40	
Expended for labor	34,061 72	
Expended for stock	17,989 79	
		<u>52,695 91</u>

Total expenditures of the Sanitary Section for
the fiscal year ending January 31, 1910 . . . \$692,697 79

REVENUE RECEIVED FROM OUTSIDE DIVISIONS
FOR BOARD AND CARE OF HORSES, RENT,
USE OF DUMPING BOATS, SHOEING, AND FOR
REPAIRING VEHICLES, ETC.

Bridge Division*	\$670 67	
County of Suffolk	2,118 63	
Lamp Division	1,674 69	
Paving Division*	12,378 71	
Sewer Division	5,353 67	
Street Cleaning and Watering Sections	33,245 49	
		<u>55,441 86</u>

Net cost of maintenance to Sanitary Section, \$637,255 93

Amount of money deposited and bills presented to the
City Collector during the year ending January 27, 1910,
for general revenue:

MONEY DEPOSITED.

From letting of scow privileges \$4,021 60

BILLS PRESENTED.

For the collection of engine ashes	\$8,437 30	
Less bills withdrawn,	38 90	
		<u>\$8,398 40</u>
For rents, Fort Hill and Hecht's wharves	1,134 50	
For sale of manure	113 26	
For sale of old iron	151 47	
For sale of old hose	12 06	
For sale of old paper cart	30 00	
For sale of old hand bellows	5 00	
		<u>9,844 69</u>
Total		<u>\$13,866 29</u>

* Highway Division.

Items of Expenditure for the Year.

ITEMS.	Total Amount Expended.
Salaries of deputy superintendent and office force.....	\$13,104 12
Salaries of foremen.....	8,996 53
Labor — collection and disposition of house dirt and ashes...	216,468 12
Labor — collection and disposition of waste and rubbish....	28,354 83
Labor — collection and disposition of house offal.....	133,305 43
Labor and stock in stables and yards.....	40,664 77
Hired teams on ashes, waste and rubbish and house offal....	3,979 39
Contracts on ashes — East Boston, Brighton, West Rox- bury, North and South Dorchester.....	49,038 59
Contracts on offal — East Boston, Brighton, West Roxbury and Dorchester.....	30,090 00
Ash and offal stock.....	846 62
Allowed time and holidays.....	15,387 88
Grain.....	30,999 61
Hay and straw.....	20,505 85
Medical attendance and allowed time on account of injured men.....	937 14
Horses.....	7,720 00
Veterinary service and medicine.....	2,681 48
Hired horses.....	585 50
Outside board and care of horses.....	509 85
Outside horseshoeing, blacksmith, wheelwright, harness and paint.....	4,167 15
Labor, stock, etc., wheelwright, blacksmith, paint, harness and horseshoeing shops.....	49,596 53
Dumping boats, stock, etc.....	105 54
Repairs on stables, sheds, wharves and boats.....	5,767 81
Fuel.....	1,155 87
Gas.....	1,050 04
Electric lighting and power.....	923 57
Printing, stationery, office items and incidentals.....	4,915 98
Automobile supplies and repairs.....	1,172 53
Advertising.....	872 28
Rents.....	12,691 84
Tolls and fares.....	71 47
Telephones.....	1,031 00
Damages caused by teams.....	2 62
Taxes on Hecht's estate, as per lease.....	4,997 85
Total.....	\$692,697 79
Amounts paid by other departments and divisions.....	55,441 86
Amount charged to the Sanitary Section.....	\$637,255 93

CONSTRUCTION AND REPAIR SHOPS, 1909-10.

For work done and material furnished for other divisions the different shops received as follows:

Wheelwright shop	\$6,462 33	
Blacksmith shop, South End	6,138 64	
Blacksmith shop, West End	1,784 04	
Paint shop	4,839 39	
Harness shop	2,726 71	
Horseshoeing shop, South End	2,496 00	
Horseshoeing shop, West End	2,036 25	
		\$26,483 36

For work done and material furnished for the Sanitary Section the following amounts were expended by the different shops:

Wheelwright shop	\$5,090 43	
Blacksmith shop, South End	5,221 09	
Blacksmith shop, West End	817 75	
Paint shop	5,088 18	
Harness shop	4,243 57	
Horseshoeing shop, South End	1,856 67	
Horseshoeing shop, West End	795 48	
		23,113 17

Total amount paid out, stock and labor, all divisions		\$49,596 53
Foreman in charge	\$644 40	
Allowed time and holidays	2,065 51	
Allowed time, medical attendance	6 00	
Expended for electric power	383 47	
		3,099 38

Total cost of maintenance of shops	\$52,695 91
Income from other divisions	26,483 36

Net cost of maintenance of shops to Sanitary Section	<u><u>\$26,212 55</u></u>
---	---------------------------

DETAILED ACCOUNT OF AMOUNTS PAID TO THE SANITARY SECTION DURING THE YEAR ENDING JANUARY 31, 1910.

For official salaries	\$3,440 32
For services of engineer	355 00
For repair and construction work	21,951 11
For horseshoeing	4,532 25
For use of dumping boats	8,936 75
For use of towboat	1,923 83
For hay, straw and grain, board and care of horses	7,423 69
For feeders, stablemen and watchmen	1,411 58
For fuel, light, etc.	727 24
For board and care of sick horses at veterinary hospital	804 00
For rent of wharf, Atlantic avenue	5,200 00
For labor, oiling streets	49 50
For labor and supervision removing snow for Street Cleaning and Watering Sections (Sanitary Division)	7,803 36
For horse loaned to County of Suffolk	30 00
For furnishings for prison van	594 40
Total income	<u>\$65,183 03</u>

AMOUNTS PAID BY THE SANITARY SECTION TO OTHER DIVISIONS DURING THE YEAR ENDING JANUARY 31, 1910.

To Street Cleaning and Watering Section, removing ashes	\$9,097 55
To Street Cleaning and Watering Section, wiring	36 00
To Street Cleaning and Watering Section, board and care of horses,	467 37
To Street Cleaning and Watering Section, carpenter labor	40 25
To County of Suffolk for two horses,	100 00
	<u>9,741 17</u>
Net income	<u><u>\$55,441 86</u></u>

Horseshoeing by Divisions.

KINDS AND STYLES.	SANITARY DIVISION.		Sewer Division.	Highway (Paving) Division.	Lamp Division.	County of Suffolk.	Total.
	Sanitary Section.	Street Cleaning and Watering Sections.					
Plain shoes.....	7,065	4,424	877	82	64	139	12,651
Bar shoes.....	118	104	68	2	.....	30	322
Leathers.....	3,509	2,533	332	.....	8	52	6,434
Resets.....	1,052	471	45	14	.....	18	1,600
Pads.....	350	343	146	60	38	64	1,001
Springs.....	6	16	.....	.....	.....	.....	22

Average cost per shoe, 37 cents.

Cost of Horseshoeing.

	Division Shops.	Outside Shops.
Stock.....	\$2,673 94	\$4,086 50
Labor.....	4,510 46	
Totals.....	\$7,184 40	\$4,086 50

Amount Expended for the Collection and Disposal of House Dirt, Ashes, Waste and Rubbish and House Offal,
by Districts, Including Labor, Stock, Etc.

Districts.	Popula- tion.	ASHES.		GARBAGE.		RUBBISH.		Total Cost.	Total Cost per Capita.
		Cost.	Cost per Capita.	Cost.	Cost per Capita.	Cost.	Cost per Capita.		
1. South Boston.....	73,000	\$25,175 94	\$0 3449	\$13,686 73	\$0 1875	\$338 64	\$0 0046	\$39,201 31	\$0 5370
2. East Boston.....	57,000	13,546 69	0 2377	6,046 68	0 1061	.....	.....	19,593 37	0 3438
3. Charlestown.....	40,000	22,729 06	0 5682	9,009 09	0 2252	.....	.....	31,738 15	0 7934
4. Brighton.....	25,000	8,756 91	0 3503	4,136 90	0 1654	.....	.....	12,893 81	0 5157
5. West Roxbury.....	40,000	17,846 23	0 4461	8,990 86	0 2248	.....	.....	26,837 09	0 6709
6. Dorchester.....	105,000	27,787 15	0 2646	22,424 96	0 2136	.....	.....	50,212 11	0 4782
7. Roxbury.....	117,000	54,244 45	0 4636	31,618 09	0 2703	2,294 56	0 0196	88,157 10	0 7535
8 and 9. South End and Back Bay,	104,000	96,179 10	0 9248	41,734 94	0 4013	18,824 39	0 1810	156,738 43	1 5071
10. North and West Ends.....	77,000	65,133 40	0 8459	13,920 95	0 1808	9,793 11	0 1272	88,847 46	1 1539
Dumping Boats.....	.....	27,383 05	.....	53,717 90	.....	24,128 90	.....	105,229 85	.....
Totals.....	638,000	\$358,781 98	.....	\$205,287 10	.....	\$55,379 60	.....	\$619,448 68	\$0 9709

Force Employed on House Dirt and Ashes January 31, 1910.

CITY FORCE.	Number.	Hired Teams.	CONTRACTORS' TEAMS.					Totals.
			East Boston.	Brighton.	West Roxbury.	North Dorchester.	South Dorchester.	
Inspectors.....	24							24
Teamsters.....	114	10½	5	9	3	10	9	160½
Helpers.....	115	10½	13	12	5	25	12	192½
Dumpers.....	22							22
Totals.....	275	21	18	21	8	35	21	399

Amount of House Dirt and Ashes Removed.

YEARS.	Number of Loads.	Cubic Yards.	Tons.
1905.....	321,545	643,090	257,236
1906.....	352,124	704,248	281,699
1907.....	377,058	754,116	301,647
1908.....	339,913	745,918	311,586
1909.....	299,071	692,865	311,791

Force Employed on Waste and Rubbish January 31, 1910.

CITY FORCE.	Number.
Inspectors.....	2
Teamsters.....	14
Helpers.....	26
Dumpers.....	1
Totals.....	43

Amount of Waste and Rubbish Removed.

YEARS.	NUMBER OF LOADS.		Cubic Yards.	Tons.
	Paper Carts.	Market Wagons.		
1905.....	6,569	10,540	108,596	12,387
1906.....	6,271	11,133	125,281	12,836
1907.....	6,098	11,071	112,960	12,708
1908.....	5,892	10,346	123,830	13,566
1909.....	5,556	7,397	99,975	10,916

Force Employed on House Offal January 31, 1910.

CITY FORCE.	Number.	CONTRACTORS' TEAMS.				Totals.
		East Boston.	Brighton.	West Roxbury.	Dorchester.	
Inspectors.....	13	.....	.....	.....	.....	13
Teamsters.....	52	4	5	3	7	71
Helpers.....	50	4	4	3	14	75
Dumpers.....	3	.....	.....	.....	.....	3
Totals.....	118	8	9	6	21	162

Amount of Garbage Removed.

YEARS.	Number of Loads.	Cubic Yards.	Tons.
1905.....	64,803	129,606	64,803
1906.....	65,387	130,774	65,387
1907.....	64,712	129,424	64,712
1908.....	62,892	125,784	78,615
1909.....	54,747	105,595	68,636

Number of Loads of Material Collected from February 1, 1904, to January 27, 1910.

YEAR.	Ashes.	Garbage.	Waste and Rubbish.	Total Loads.	Total Tons. (2,000 lbs.)
1904.....	325,955	64,084	16,234	406,273	336,279
1905.....	331,545	64,803	17,109	413,457	334,426
1906.....	352,124	65,387	17,404	434,915	359,922
1907.....	377,058	64,712	17,169	458,939	379,067
1908.....	339,913	62,892	16,238	*419,043	403,767
1909.....	299,071	54,747	12,953	366,771	391,343

* Decrease in number of loads due to increase in carrying capacity of carts.

Average Number of Employees and Horses Cared for by the Sanitary Section.

Average number of employees for 1909.....	.....	572
Average number of horses, Sanitary Section.....	242	
Average number of hired horses.....	2	
Average number of all other horses.....	38	
Average number of horses fed by the Sanitary Section...	.....	282

Capacity of Carts and Wagons in Use by the Sanitary Section.

	Cubic Feet.		Cubic Feet.
Single ash carts	63	Single garbage wagons	52
Double ash carts	162	Double garbage wagons	85
Paper carts	200	Paper wagons	270

Average Weight of Loads.

	Summer. Pounds.	Winter. Pounds.
Ash carts.....	1,900	2,300
Garbage wagons.....	2,550	2,450
Paper carts.....	1,450	1,350
Paper wagons.....	2,000	1,800

NOTE.—The loads referred to in tables and elsewhere are "single" loads, other loads being converted to this standard.

Loads Collected by Contractors.

	Ash Loads.	Cubic Yards.	Tons.
East Boston.....	18,164	43,049	19,372
Brighton.....	12,726	30,542	13,744
West Roxbury.....	9,374	22,498	10,124
North Dorchester.....	21,001	48,302	21,736
South Dorchester.....	19,535	41,024	18,461
Totals.....	80,800	185,415	83,437

	Garbage Loads.	Cubic Yards.	Tons.
East Boston.....	2,122	5,093	3,310
Brighton.....	2,615	5,439	3,535
West Roxbury.....	1,616	2,913	1,893
Dorchester.....	8,687	16,528	10,743
Totals.....	15,040	29,973	19,481

Loads and Tonnage of Material Collected, by Districts.

CLASS OF REFUSE.	1. South Boston.	2. East Boston.	3. Charlestown.	4. Brighton.	5. West Roxbury.	6. Dorchester.	7. Roxbury.	8-9. South End and Back Bay.	10. North and West Ends.	Total Loads, Irrespective of Size.	Total Tons (2,000 pounds).
House dirt and ashes. . . {	21,667	18,164	15,590	12,726	21,548	40,536	35,685	70,528	62,627	299,071	311,791
	22,688	19,372	16,281	13,744	22,847	40,197	37,383	73,695	65,584	.....	
Garbage..... {	3,628	2,122	2,199	2,615	3,991	8,687	8,116	16,355	7,034	54,747	68,636
	4,905	3,310	2,647	3,535	4,891	10,743	10,479	19,667	8,459	.....	
Waste and rubbish.... {	210	.....	.....	.....	15	.....	618	7,330	4,780	12,953	10,916
	200	.....	.....	.....	13	.....	584	6,281	3,838	.....	
Totals { Loads.....	25,505	20,286	17,789	15,341	25,554	49,223	44,419	94,213	74,441	366,771	391,343
	Tons.....	27,793	22,682	18,928	27,751	50,940	48,446	99,643	77,881	.....	

NOTE.—First item, loads. Second item, tons.

Final Disposition of all Material, in Loads and Tons (2,000 pounds), Collected by the Sanitary Section from January 29, 1909, to January 27, 1910, Inclusive.

CLASS OF REFUSE.	Deposited on Low Lands.	Towed to Sea.	Plant of the New England Sanitary Product Company.	Plant of the City Refuse Utilization Company.	Collected by Contractors and Disposed of by them.	Total Number of Loads Disposed of.	Total Tons (2,000 pounds).
House dirt and ashes . . . {	124,503	93,768	.....	.....	80,800	299,071	311,791
	130,226	98,128	.....	.....	83,437	.....	
Garbage..... {	.....	.....	48,394	.....	6,353	54,747	68,636
	.....	.....	59,898	.....	8,738	.....	
Waste and rubbish.... {	2,065	* 5,724	.....	10,141	.....	17,930	15,893
	1,835	5,583	.....	8,475	.....	.....	
Cesspool dirt..... {	.....	2,438	.....	.....	.....	2,438	3,047
	.....	3,047	.....	.....	.....	.....	
Street sweepings..... {	.....	35,422	.....	.....	.....	35,422	44,277
	.....	44,277	.....	.....	.....	.....	
Miscellaneous dirt..... {	.....	4,316	.....	.....	.....	4,316	3,453
	.....	3,453	.....	.....	.....	.....	
Totals { Loads.....	126,568	141,668	48,394	10,141	87,153	413,924	447,097
	Tons.....	132,061	154,488	59,898	92,175	.....	

NOTE.—First item, loads. Second item, tons.

* Includes 4,977 loads (4,977 tons) of barrel refuse delivered at dumping boats.

Cost of Collection and Disposal of Refuse by Contract in the City of Boston for the Year 1909-10.

Contract Districts and Population.	Character of Refuse.	Tons, (2,000 lbs.)	Total Tons.	Cost per Ton by Districts Collection and Disposal.	Cost by Districts.			Where Disposed of.
					Cost.	Total Cost.	Total Cost per Capita.	
2 (57,000)	Mixed refuse, principally ashes (no kitchen wastes).....	19,372	.....	\$0 7448	\$14,428 14	.....	.....	Inland dumps.
	Garbage, principally kitchen wastes....	3,310	22,682	1 8723	6,197 28	\$20,625 42	\$0 3618	Inland dumps.*
4 (25,000)	Mixed refuse, principally ashes (no kitchen wastes).....	13,744	.....	Av. \$0 9093	\$9,382 26	.....	.....	Inland dumps.
	Garbage, principally kitchen wastes....	3,535	17,279	0 6826	4,297 75	13,680 01	0 5472	Inland dumps.*
5. (part) (20,000)	Mixed refuse, principally ashes (no kitchen wastes).....	10,124	.....	Av. \$0 7923	\$6,567 65	.....	.....	Inland dumps.
	Garbage, principally kitchen wastes....	1,893	12,017	0 6487	3,044 15	9,611 80	0 4806	Inland dumps.*
6. (105,000)	Mixed refuse, principally ashes (no kitchen wastes).....	40,197	.....	Av. \$0 7998	\$29,616 10	.....	.....	Inland dumps.
	Garbage, principally kitchen wastes....	10,743	50,940	0 7368	32,548 38	62,164 48	0 5920	(New England Sanitary Product Company.†
207,000	Totals.....	102,918	102,918	Av. \$1 0307	\$106,081 71	\$106,081 71	\$0 5125	

* Removed beyond city limits and presumably fed to swine.

† Contract for disposal.

Total, as above.....\$106,081 71

Add total of day labor table (facing page 334).....531,174 22

Net amount of appropriation.....\$637,255 93

Year 1909-10.

Total Cost Collection and Disposal.	Total Cost per Capita, Collection and Disposal	WHERE DISPOSED OF.
.....	.....	21,362 tons to inland dumps; 1,326 tons to
.....	.....	sea.
.....	.....	New England Sanitary Product Company.*
.....	.....	13 tons to City Refuse Utilization Company;*
5,269 47	\$0 6201	187 tons to inland dumps.
.....	.....	15,892 tons to inland dumps; 389 tons to sea.
.....	.....	New England Sanitary Product Company.*
5,081 73	0 8770	
.....	.....	Inland dumps.
.....	.....	New England Sanitary Product Company.*
0,936 04	0 8828	584 tons to inland dumps; 13 tons to City
.....	.....	Refuse Utilization Company.
.....	.....	41,737 tons to inland dumps; 31,958 tons to
.....	.....	sea.
.....	.....	New England Sanitary Product Company.*
1,710 80	1 9395	4,974 tons to City Refuse Utilization Com-
.....	.....	pany;* 1,064 tons to inland dumps; 243
.....	.....	tons to sea.
.....	.....	1,129 tons to inland dumps; 64,455 tons to
.....	.....	sea.
.....	.....	New England Sanitary Product Company.*
8,176 18	1 6646	3,475 tons to City Refuse Utilization Com-
.....	.....	pany;* 363 tons to sea.
1,174 22	\$1 2324	

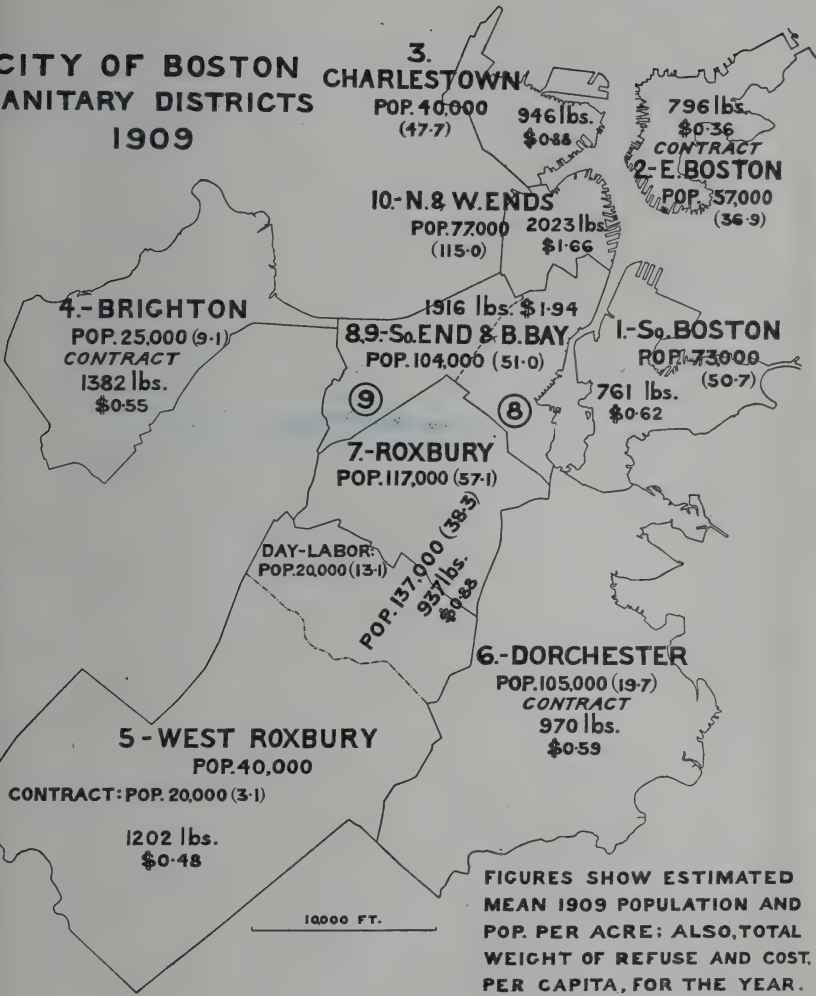
Cost of Collection and Disposal of Refuse by Day Labor Force in the City of Boston for the Year 1909-10.

District and Pop-ulation.	CHARACTER OF REFUSE.	Tons. (2,000 lbs.)	Total Tons.	COST PER TON BY DISTRICTS.			COST BY DISTRICTS.						WHERE DISPOSED OF.
				To Collect.	For Disposal.	Total Collection and Disposal.	To Collect.	Total Cost to Collect.	For Disposal.	Total Cost of Disposal.	Total Cost of Collection and Disposal.	Total Cost per Capita, Collection and Disposal	
1 (73,000)	Mixed refuse, principally ashes (no kitchen wastes)...	22,688		\$1 1049	\$0 0666	\$1 1715	\$25,066 83		\$1,511 44				21,362 tons to inland dumps; 1,326 tons to sea. New England Sanitary Product Company.*
	Garbage, principally kitchen wastes.....	4,905		2 8268	0 9059	3 7327	13,865 29		4,443 58				
	Store refuse, principally paper.....	200		1 7296	0 1821	1 9117	345 92		36 41				
3 (40,000)			27,793	Av. \$1 4132	Av. \$0 2156	Av. \$1 6288		\$39,278 04		\$5,991 43	\$45,269 47	\$0 6201	13 tons to City Refuse Utilization Company;* 187 tons to inland dumps.
	Mixed refuse, principally ashes (no kitchen wastes)...	16,281		\$1 2585	\$0 1897	\$1 4482	\$20,489 88		\$3,088 53				
	Garbage, principally kitchen wastes.....	2,647	18,928	3 4399	0 9059	4 3458	9,105 41	29,595 29	2,397 91	5,486 44	35,081 73	0 8770	
5 (part) and 7. (137,000)			64,180	Av. \$1 5636	Av. \$0 2899	Av. \$1 8535		101,086 89		19,849 15	120,936 04	0 8828	Inland dumps. New England Sanitary Product Company.*
	Mixed refuse, principally ashes (no kitchen wastes)...	50,106		\$1 2118	\$0 1506	\$1 3624	\$60,716 18		\$7,547 35				
	Garbage, principally kitchen wastes.....	13,477		2 8301	0 9060	3 7361	38,141 67		12,209 18				
8 and 9. (104,000)	Store refuse, principally paper.....	597		3 7337	0 1551	3 8888	2,229 04		92 62				584 tons to inland dumps; 13 tons to City Refuse Utilization Company.
			99,643	Av. \$1 5751	Av. \$0 3093	Av. \$1 8843		151,094 53		50,616 27	201,710 80	1 9395	
	Mixed refuse, principally ashes (no kitchen wastes)...	73,695		\$1 2618	\$0 2098	\$1 4716	\$92,986 89		\$15,464 13				
10 (77,000)	Garbage, principally kitchen wastes.....	19,667		1 9945	1 0699	3 0644	39,226 01		21,011 61				4,974 tons to City Refuse Utilization Company;* 1,064 tons to inland dumps; 243 tons to sea. New England Sanitary Product Company.*
	Store refuse, principally paper.....	6,281		3 0062	2 2465	5 2527	18,881 63		14,110 50				
			77,881	Av. \$1 5163	Av. \$0 5080	Av. \$2 0243		90,681 50		37,494 68	128,176 18	1 6646	
10 (77,000)	Mixed refuse, principally ashes (no kitchen wastes)...	65,584		\$1 0143	\$0 2986	\$1 3129	\$66,519 76		\$19,584 24				1,129 tons to inland dumps; 64,455 tons to sea. New England Sanitary Product Company.*
	Garbage, principally kitchen wastes.....	8,459		1 6821	0 9059	2 5880	14,228 87		7,663 13				
	Store refuse, principally paper.....	3,838		2 5880	2 6700	5 2580	9,932 87		10,247 31				
431,000			431,000	Av. \$1 1644	Av. \$0 4814	Av. \$1 6458							3,475 tons to City Refuse Utilization Company;* 363 tons to sea.
	Totals.....	288,425	288,425	Av. \$1 4275	Av. \$0 4141	Av. \$1 8416	\$411,736 25		\$119,437 97	\$531,174 22	\$1 2324		

* Contracts for disposal.

Total, as above.....	\$531,174 22
Add total of contract table (page 334).....	106,081 71
Net amount of appropriation.....	<u>\$637,255 93</u>

CITY OF BOSTON SANITARY DISTRICTS 1909



FIGURES SHOW ESTIMATED
MEAN 1909 POPULATION AND
POP. PER ACRE; ALSO, TOTAL
WEIGHT OF REFUSE AND COST
PER CAPITA, FOR THE YEAR.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

MAINTENANCE OF FORT HILL WHARF AND DUMPING BOATS.

For towing by division towboat . . .	\$14,008 20	
For towing by outside towboat . . .	1,358 75	
		\$15,366 95

For repairs on wharves and boats . . .	\$4,297 43	
For dumping boat stock and supplies	586 26	
For labor, crew and dumpers	10,659 21	
For allowed time, holidays, etc.	316 33	
		15,859 23

Total cost of maintenance of Fort Hill Wharf and dumping boats	<u><u>\$31,226 18</u></u>
--	---------------------------

Number of trips to sea by division towboat, Sanitary Section	405	
Number of trips to sea by division towboat, Sewer Division	57	
Number of trips to sea by outside towboat, Sanitary Section	25	
		487

Number of scows to sea	445
Cost per cart load	\$0.22
Cost per boat load	\$70.17

Contracts.

Объект.	Name.	Price per Month.	Commence.	End.
Removal of house dirt and ashes:				
East Boston.....	Charles Berman.....	\$1,041 66 $\frac{2}{3}$	July 1, 1908	July 1, 1910
Brighton.....	John H. Carter.....	601 66 $\frac{2}{3}$	July 15, 1908	July 15, 1910
Part of West Roxbury *.....	John J. Moore.....	458 33 $\frac{1}{3}$	April 10, 1907	April 10, 1909
Part of West Roxbury *.....	John J. Moore.....	690 00	Dec. 13, 1909	Jan. 31, 1910
North Dorchester.....	Arthur C. Mullen.....	1,275 00	Sept. 1, 1908	Sept. 1, 1910
South Dorchester.....	Martin F. Gaddis.....	745 83 $\frac{1}{3}$	Aug. 1, 1908	Sept. 30, 1909
South Dorchester †.....	John T. Keogh & Bro.....	1,000 00	Nov. 1, 1909	Jan. 1, 1910
Removal of house offal:				
East Boston.....	John T. Lane.....	416 66 $\frac{2}{3}$	July 15, 1908	July 15, 1910
Brighton.....	John Newbury.....	216 66 $\frac{2}{3}$	June 20, 1908	June 20, 1910
Part of West Roxbury.....	William H. Kennelly.....	207 50	June 15, 1908	June 15, 1910
Dorchester †.....	Timothy F. Bradley.....	1,666 66 $\frac{2}{3}$	April 11, 1907	April 11, 1909
Lease of wharf, Atlantic avenue §.....	Middlesex Trust.....	958 33 $\frac{1}{3}$	March 1, 1903	Dec. 1, 1908
Disposal of house offal.....	New England Sanitary Product Company.....	4,366 66 $\frac{2}{3}$	Nov. 7, 1901	Jan. 1, 1912
Disposal of waste and rubbish ||.....	City Refuse Utilization Company.....	458 33 $\frac{1}{3}$	Dec. 1, 1898	Dec. 1, 1908
Removal of dead animals.....	N. Ward Company.....	No charge.	Nov. 9, 1901	Jan. 1, 1912
Lease of land and buildings, East Second street.....	M. J. and E. M. Mahoney.....	75 00	April 1, 1909	April 1, 1914

* Contract extended to December 13, 1909.

† From September 30 to November 1, 1909, and from January 1 to January 31, 1910, hired teams were employed.

‡ Contract extended to January 31, 1910.

§ Running at will since December 1, 1908, at same rate.

|| All contracts advertised and let to the lowest bidder.

Amounts Paid to Contractors, Year of 1909.

District.	ASHES.		District.	OFFAL.	
	Name.	Per Year.		Name.	Per Year.
2. East Boston.....	Charles Berman.....	\$12,500 00	2. East Boston.....	John T. Lane.....	\$5,000 00
4. Brighton.....	John H. Carter.....	7,220 00	4. Brighton.....	John Newbury.....	2,600 00
5. Part West Roxbury..	John J. Moore.....	5,639 00	5. Part West Roxbury..	W. H. Kennelly.....	2,490 00
6. North Dorchester...	Arthur C. Mullen.....	15,297 75	6. Dorchester.....	Timothy F. Bradley.....	20,000 00
6. South Dorchester...	Martin F. Gaddis.....	6,381 84	Disposition.....	New England Sanitary Product Company.....	52,400 00
6. South Dorchester...	John T. Keogh & Bro.....	2,000 00			
Disposition.....	City Refuse Utilization Com- pany.....	5,105 82			

Repairs and Insurance, Year Ending January 31, 1910.

OBJECT.	Contractor.	Amount Paid.	Date of Contract.
Repairs to tugboat.....	The Atlantic Works.....	\$1,800 00	May 24, 1909
Repairs to dumpers [No 1, 2, 3 and 4.....	D. D. Kelly & Son.....	300 00	July 28, 1909
Repairs to Dumper No. 5..	Bertelsen & Petersen Engineering Company.....	544 00	Nov. 3, 1909
Dredging wharf at Atlantic avenue.....	Bay State Dredging Company (18 hours at \$20)...	360 00	Dec. 17, 1909
Installing electric lights at South End Yard.....	Deane & Lobdell.....	576 00	Jan. 29, 1910
Insurance on automobile...	G. R. Griffin & Co.....	70 00	Jan. 25, 1910

and Rubbish, and Garbage During the Year Ending January 31, 1910.

DISTRICTS.	ASH CARTS.		OFFAL WAGONS.				PAPER.		Name of Contractor.		
	WOOD.		IRON.		WOOD.		Carts.	Wagons.			
	Single.	Double.	Single.	Double.	Single.	Double.					
1. South Boston.....	17	.....	.....	.....	8	.....	1	1	12		
3. Charlestown.....	14	.....	5	.....	2	.....	1	1	13		
5 and 7. Roxbury.....	50	4	11	.....	12	.....	3	2	33		
8. South End Shop.....	9	1	2	1	1	.....	.....	.....	1		
8 and 9. South End and Back Bay.....	66	2	20	1	17	.....	20	10	40		
10. North and West Ends.....	40	.....	8	.....	.....	.....	6	4	5		
Total number used by Sanitary Division.....	196	7	46	2	40		31	18	104		Charles Berman.*
IN USE BY CONTRACTORS.											
2. East Boston.....		5									John T. Lane.*
2. East Boston.....						5					John H. Carter.*
4. Brighton.....	5	2	.....	.....	.....	.....	.....	.....	4	John Newbury.	
4. Brighton.....	.....	.....	.....	.....	2	5	.....	.....	.....	John J. Moore.*	
5. West Roxbury.....	.....	3	.....	.....	.....	.....	.....	.....	.....	William H. Kennelly.	
5. West Roxbury.....	.....	.....	.....	1	.....	3	.....	.....	.....	Arthur C. Mullen.	
6. North Dorchester.....	3	8	.....	.....	.....	.....	.....	.....	.....	Hired Teams.*	
6. South Dorchester.....	.....	10	.....	.....	.....	.....	.....	.....	.....	Timothy F. Bradley.	
6. Dorchester.....	.....	.....	.....	7	2	1	.....	.....	.....		
Totals.....	204	35	46	10	44	14	31	18	108		

* Contractors furnished their own teams.

LANDS AND BUILDINGS IN CHARGE OF THE SANITARY
DIVISION.*South Boston Stable. (Leased.)*

Stables and sheds, with accommodations for twenty horses, located at H and Second streets, South Boston.

East Boston Stable. (Leased.)

Stables and shed, with accommodations for fifteen horses, located at 324 East Eagle street and occupied jointly by Paving, Sewer, Street Cleaning and Sanitary Divisions.

Charlestown Stable.

With accommodations for twenty-five horses, situated on Rutherford avenue; lot contains 17,300 square feet of land; stable built in 1875; cost \$5,083.07; sheds and outbuildings built in 1879.

Brighton.

Accommodation was provided by the Sewer Division at its stable on Western avenue for two horses of the Sanitary Division. Discontinued July 15, 1908.

Highland Stable.

With accommodations for seventy-two horses on the old almshouse lot, Highland street, containing 81,082 square feet. A part of this stable and adjoining lot is used by the Paving Division. There is on this lot a brick stable, built in 1878, which cost \$88,594.13. On this lot is an offal shed, erected in 1875, at a cost of \$1,160.12. This offal shed was abandoned on April 1, 1897, and in 1900 part of it was remodeled and is now used as a carriage house and wash room.

South City Stables, Shops and Sheds.

Situated on Albany street, opposite Newton street. The lot belonged to the city before being used for this purpose, and contains 90,780 square feet of land.

The stables and buildings connected therewith are of brick. There are also on the premises five wooden sheds, used for storing wagons, etc. The stable is two stories high, with French roof, and has accommodations for 100 horses. Twenty-three horses are kept in sheds. Total original cost, exclusive of land, \$79,089.23. In 1899 a veterinary hospital was built and equipped for the purpose of caring for sick and disabled horses.

Connected with stables are blacksmith, wheelwright, paint and harnessmaker's shops, in which wagons, carts, harnesses,

etc., used by this and other departments are constructed and kept in repair, also a horseshoeing shop for shoeing the horses of the division located in this section of the city.

West Stables and Sheds.

The stable is a brick building, a story and a half high, 128 feet by 50 feet, located on North Grove street; built in 1860 without buildings attached to same. It has accommodations for ninety horses in stables and sheds. The lot contains about 45,152 square feet. On May 11, 1896, a horseshoeing shop was established for the purpose of shoeing horses of the division stabled in this section of the city.

Fort Hill Wharf.

Containing 21,054 square feet, placed in charge of the Sanitary Division; used as a dumping station for the city's garbage and refuse and as a mooring place for dumping boats and scows, which convey this material to sea and to the plant of the New England Sanitary Product Company. Cost of constructing platform and dredging dock, \$6,219.33. There are five Barney dumping boats which are in continual use and are towed to sea by the tugboat "Cormorant."

A portion of this wharf is used by the Street Cleaning Division as a locker for patrol push carts, etc., and a part is in use by the Paving Division.

Litchfield's Wharf. (Leased)

Situated at 466 to 470 Atlantic avenue, containing about 35,460 square feet. Leased from Jacob H. Hecht, March 1, 1898, for a period of ten years. This wharf adjoins Fort Hill Wharf and is occupied in part by the New England Sanitary Product Company as a berth for their scows, and also by the buildings of the City Refuse Utilization Company for the disposal of waste and rubbish. This property is now owned by the Middlesex Trust. Lease extended from March 1, 1908, to December 1, 1908, and now running at will.

Weighing Shed. (Hired.)

Situated at the corner of Massachusetts avenue and South-ampton street. Rented from the Boston Consolidated Gas Company. Lot contains about 2,300 square feet of land.

Wharf Property on Freeport Street, Dorchester.

On Freeport street, Dorchester, wharf property containing 160,745 square feet, bought by the city for the Sanitary Department, but never used.

Summary of Volume and Cost of Snow Removed, Year Ending January 31, 1910.

DISTRICTS.	LOADS.		TOTAL LOADS.		Cubic Yards.	Total Cubic Yards.	Cost.	Total Cost.	Cost per Cubic Yard.	Total Cost per Cubic Yard.
	Single.	Single.	Single.	Single.						
1. South Boston.....	984	.....	.....	.....	2,184	.....	\$1,241 61	.....	\$0 57	.....
2. East Boston.....	783	.....	.....	.....	1,738	.....	168 50	.....	10	.....
3. Charlestown.....	1,374	132	.....	.....	3,392	.....	1,199 24	.....	35	.....
6. Dorchester.....	131	.....	.....	.....	291	.....	74 50	.....	26	.....
7. Roxbury.....	616	2,619	.....	.....	1,368	.....	1,367 45	.....	1 00	.....
8. South End.....	8,663	.....	.....	.....	26,015	.....	9,374 41	.....	36	.....
9. Back Bay.....	1,868	.....	.....	.....	4,147	.....	1,457 64	.....	35	.....
10. North and West Ends.....	10,290	807	*	†	24,934	.....	10,880 01	‡	44	.....
11. Patrol.....	5,408	2,441	30,117	5,999	18,328	82,327	5,477 26	\$31,240 62	30	\$0 379

* Street Cleaning Section, single loads, 2.22 cubic yards.

† Sanitary Section, single loads, 2.59 cubic yards.

‡ Includes Sunday and other work paid for at time and one-half.

STREET CLEANING AND WATERING SERVICE.

FINANCIAL STATEMENT, 1909-10.

STREET CLEANING AND WATERING APPROPRIATION.

Amount of appropriation	\$605,000 00
Amount unexpended	32,773 84
Amount of expenditures	\$572,226 16
Expenditures of Street Cleaning Section	\$401,497 41
Expenditures of Street Watering Section	170,728 75
	<u>\$572,226 16</u>

ITEMS OF EXPENDITURE FOR THE YEAR.

Street Cleaning Service.

Salary of deputy and office pay rolls,	\$2,985 91
Stationery and postage	118 70
Printing	930 13
Uniforms	1,983 40
Advertising	67 42
Telephone service	262 85
Office items and incidentals	531 12
Foremen	11,184 60
Sub-foremen on paved streets, gutters, crossings, snow work and patrolling	19,267 12
Labor on paved streets, gutters, crossings, snow work and patrolling	168,629 56
Hired teams on paved streets, gutters, snow work and patrolling	11,981 30
Rent and labor on dumps	12,966 93
Cleaning public alleys	260 22
Sanding streets	610 55
Labor and teaming, flushing streets, Work performed for the Sewer Division	4,075 61
	6 99

Carried forward \$235,862 41

<i>Brought forward</i>	\$235,862 41
Snow license	500 00
Hay, straw and grain	27,790 76
Stable and yard labor	23,068 86
Rents	2,956 87
Fuel	1,057 94
Gas and electric lighting	295 28
Yard and stable, repairs and furnishings	1,656 91
Cart and carriage repairs and furnishings	5,422 61
Harness repairs	711 32
Tool repairs	102 56
Sweeping machine repairs	3,395 08
Horseshoeing	5,053 00
Veterinary services and medicine	1,635 98
Tolls and fares	33 34
Broom stock purchased	1,364 80
Refilling machine brooms	2,880 00
Tools	842 97
Street washing machines purchased, Horses	3,873 00
Holidays, allowed time and medical attendance	7,632 50
Annuity (See chapter 569, Acts, 1898)	4,812 50
	300 00

Patrol System.

Foremen	\$1,396 20
Sub-foremen, labor and hired teams,	60,163 93
Cart and barrel repairs	1,050 90
Push cart and barrel stock	870 52
Yard and office repairs	71 63
Yard and office labor	3,039 11
Rent and labor on dumps	1,147 67
Rent	612 00
Fuel	71 39
Light	13 73
Telephone service	80 02
Holidays, allowed time and medical attendance	1,346 50
Harness and horse furnishings	18 50
Harness repairs	1 43
Horseshoeing	69 25
Tools and tool repairs	166 44
Brooms	129 50
	\$401,497 41
<i>Carried forward</i>	
	\$401,497 41

Brought forward \$401,497 41

Street Watering and Oiling Service.

Superintendence and office salaries,	\$5,617 41	
Advertising	29 20	
Printing	168 67	
Stationery	32 42	
Office items	194 99	
Veterinary	19 00	
Bicycles and bicycle repairs . .	571 88	
Labor and inspection, street watering	8,818 49	
Labor and inspection, street oiling,	8,598 41	
Hired teams, street watering . .	38,851 34	
Hired teams, street oiling . . .	15,731 04	
Installation of oil plants . . .	3,524 82	
Maintenance of oil plants . . .	4,571 52	
Repairs to oil plants	477 36	
Street oil, soap, etc.	63,002 76	
Tools	639 98	
Fuel	697 35	
Yard and stable furnishings . .	10 37	
Yard and stable repairs	28 46	
Cart repairs	498 99	
Tool repairs	10 10	
Standpipes, maintenance and repairs	1,482 05	
Horseshoeing	163 12	
Holidays	29 25	
Calcide process, contract . . .	16,340 44	
Calcide process, inspection . . .	598 13	
Calcide process, incidentals . .	21 20	
		170,728 75
Amount of expenditures		<u><u>\$572,226 16</u></u>

Distribution of Force February 1, 1909, Street Cleaning Service.

Classes of Employees.

Distri- ct.	Foremen, \$1,400 per Year.	Clerk, \$1,000 per Year.	Messenger, \$800 per Year.	Sub-fore- men, \$3 per Day.	Inspectors, \$2.50 per Day.	Stable Laborers, \$2.50 per Day.	Yard Laborers, \$2.25 per Day.	Machine Drivers, \$14 per Week.†	Drivers, Helpers, Broom- men, \$2.25 per Day.	Miscel- laneous.	Total.
1.....	1	.....	.....	2	1	.....	5	3	35	.....	47
2.....	1	.....	.....	1	.....	.....	2	2	19	.....	25
3.....	1	.....	.....	1	.....	.....	2	2	22	.....	28
6.....	.....	.....	.....	2	.....	.....	.....	.....	9	.....	11
7.....	1	.....	.....	3	.....	.....	2	1	29	.....	36
8. Uptown.....	1	.....	.....	2	.....	.....	.....	2	25	.....	30
8. Downtown.....	1	.....	.....	4	.....	.....	.....	8	30	.....	43
South Stable.....	.....	.....	1	.....	.....	.....	9	.....	.....	.....	10
9.....	1	.....	.....	2	.....	.....	.....	.....	16	.....	19
10. West End.....	1	.....	.....	2	.....	.....	.....	3	20	.....	26
10. North End.....	.....	.....	.....	2	.....	.....	.....	3	22	.....	27
10. Patrol system.....	.....	.....	.....	1	.....	.....	.....	.....	11	.....	12
West stable.....	.....	.....	.....	.....	1	2	6	.....	.....	.....	9
11.....	1	1	.....	4	1	.....	2	.....	68	*2	79
Totals.....	9	1	1	26	3	2	28	24	306	2	402

* One painter at \$3 per day, one boy at \$1 per day.

† December 4, 1908, machine drivers increased in pay from \$2.25 per day to \$14 per week.

Total Street Cleaning force, February 1 (including office).....	1908.	1909.
Total Street Watering force, August 1.....	500	408
	21	30-1907.

Distribution of Force February 1, 1910, Street Cleaning Service.

Classes of Employees.

District.	Foremen, \$1,400 per Year.	Clerk, \$1,000 per Year.	Messenger, \$800 per Year.	Sub-fore- men, \$3 per Day.	Inspectors, \$2.50 per Day.	Stable Laborers, \$2.50 per Day.	Yard Laborers, \$2.25 per Day.	Machine Drivers, \$15 per Week.*	Drivers, Broom- men, Helpers, \$2.25 per Day.	Miscel- laneous.	Total.
1.....	1	.....	.....	1	2	.....	5	2	30	.....	41
2.....	1	.....	.....	1	.....	.....	2	2	19	.....	25
3.....	1	.....	.....	1	.....	1	1	2	21	.....	27
6.....	.....	.....	.....	1	.....	.....	.....	1	8	.....	10
7.....	1	.....	.....	3	.....	.....	1	2	30	.....	37
8. Uptown.....	1	.....	.....	2	.....	.....	1	2	22	.....	28
8. Downtown.....	1	.....	.....	4	1	.....	.....	8	35	.....	49
South stable.....	.....	.....	1	.....	.....	.....	11	.....	.....	.....	12
9.....	1	.....	.....	2	.....	.....	.....	.....	18	.....	21
10. West End.....	1	.....	.....	2	.....	.....	.....	3	23	.....	29
10. North End.....	.....	.....	.....	2	.....	.....	.....	3	22	.....	27
10. Patrol system.....	.....	.....	.....	1	.....	.....	.....	.....	13	.....	14
West stable.....	.....	.....	.....	.....	1	.....	5	.....	.....	.....	8
11.....	1	1	.....	4	1	2	2	.....	74	†1	84
Totals.....	9	1	1	24	5	3	28	25	315	1	412

* July 9, 1909, machine drivers increased in pay from \$14 per week to \$15 per week.

† One boy at \$1.25 per day.

Total Street Cleaning force February 1, 1909, 408; February 1, 1910 (including office), 416.

Total Street Watering force August 1, 1908, 21; August 1, 1909, 41.

Miles and Area of Streets Cared for, Year of 1909-10.

DISTRICT No.	Location.	MILES OF STREETS CARED FOR.		SQUARE YARDS CARED FOR.		Total Square Yards.
		Paved.	Macadam.	Paved.	Gutters 9 feet Wide.	
1.....	South Boston.....	20.19	17.82	424,000	94,090	518,090
2.....	East Boston.....	7.21	19.23	154,000	101,535	255,535
3.....	Charlestown.....	12.91	11.60	293,000	61,250	354,250
6.....	Dorchester, part.....	5.29	24.32	109,000	128,410	237,410
7.....	Roxbury.....	17.32	9.29	383,000	49,050	432,050
8.....	South End (uptown).....	11.16	12.01	225,000	63,415	288,415
8.....	South End (downtown)...	28.20	1.22	570,000	6,440	576,440
9.....	Back Bay.....	12.46	18.00	252,000	95,040	347,040
10.....	North End.....	9.35	.94	189,000	4,965	193,965
10.....	West End.....	11.48	.....	232,000	.....	232,000
Totals...	.....	135.57	114.43	2,831,000	604,195	3,435,195

Summary.

	STREET CLEANING SERVICE.		STREET WATERING SERVICE.	
	1908-09.	1909-10.	1908-09.	1909-10.
Labor.....	\$312,614 94	\$293,963 98	\$13,989 09	\$27,655 68
Teaming	40,808 39	12,335 66	120,550 70	54,579 33
Division bills.....	29,828 88	45,023 10	2,608 50	4,436 33
Sundry bills.....	36,323 70	50,174 67	17,531 61	84,057 41
Totals.....	\$419,575 91	\$401,497 41	\$154,679 90	\$170,728 75

Property Occupied by the Street Cleaning and Watering Sections.

South Boston.— Lease of stable at No. 162 West Second street.

East Boston.— Part of stable on East Eagle street (leased by Highway Division).

Charlestown.— Part of stable on Rutherford avenue (in charge of Sanitary Division), office building, Rutherford avenue.

Roxbury.— Part of stable on Highland street (in charge of Sanitary Division). Oil plant in Sanitary Division yard, Highland street.

South End.— Part of stable at No. 650 Albany street (in charge of Sanitary Division).

West End.— Part of stable on North Grove street (in charge of Sanitary Division).

Back Bay.— Lease of building at No. 95 Columbus avenue. Oil plant in Sewer Division yard, Hereford street.

Dorchester.— Oil plant in Sewer Division yard, Gibson street.

Brighton.— Oil plant in Highway Division yard, Chestnut Hill avenue.

Contracts for the Year Ending January 31, 1910.

NATURE OF CONTRACT.	With Whom.	Amount.	Date.
Five years' lease of stable (Street Cleaning).....	R. S. Brine Transportation Company	\$1,000 per year.	September 1, 1908.
Applying calcium chloride to streets,	Calcide Process Company.....	\$16,340.44 408,511 yards at 4 cents per yard.	February 24, 1909.

Contracts for Furnishing Carts for Watering and Oiling Streets.

DISTRICT.	Contractor.	Price.	Term.	Amount paid under Contract.
1. South Boston.....	John W. Collins.....	\$5 48	April 1 to Dec. 1, 1909	\$7,034 59
2. East Boston.....	Martin F. Gaddis.....	5 70	April 1 to Dec. 1, 1909	2,622 00
3. Charlestown.....	Bernard E. Grant.....	5 44	April 1 to Dec. 1, 1909	2,948 01
4. Brighton.....	Thomas J. Shea Co.....	5 50	April 1 to Dec. 1, 1909	3,646 50
5. West Roxbury.....	Charles J. Jacobs Co....	5 00	April 1 to Dec. 1, 1909	3,932 50
6-9. Dorchester.....	John H. Winsloe.....	4 72	April 1 to Dec. 1, 1909	9,023 33
7. Roxbury.....	James E. Noble.....	4 85	April 1 to Dec. 1, 1909	7,009 48
8. South End.....	Joseph McGreevey.....	5 15	April 1 to Dec. 1, 1909	6,092 28
10. North & West Ends.	John T. Keogh & Bro....	5 40	April 1 to Dec. 1, 1909	10,805 70

Snow Work for all Districts.

Crossing and Gutter Work and Snow Removal.

Inspection and Labor, Crossings and Gutters.	Inspection and Labor and Teaming, Snow Removal.	Loads of Snow Removed.	Cubic Yards of Snow Removed.	Cost per Load Removed.	Cost per Cubic Yard Removed.
\$16,706 46	*\$31,240 62	30,117 †5,999	82,369	\$0 865	\$0 379

* Time and one-half allowed for Sundays and holidays.

† Sanitary Section teams.

Distribution of Horses and Rolling Stock.

ITEMS.	1.	2.	3.	7.	South Stable.	West Stable.	Total.
Cart horses.....	15	10	9	7	43	35	119
Driving horses.....	2	1	2	*4	5	1	15
Single carts.....	17	8	9	9	65	23	131
Watering carts.....	2	1	1	1	5	2	12
Single machines.....			1		8		8
Double machines.....	4	2	2	4	20	7	39
Road machines.....					4		4
Flushing machines.....					4		4
Express wagons.....	1	1	1		1		4
Concord wagons.....			1	1	4		6
Snow plows.....	1	1	1		2	2	7
Buggies.....	2	2	1	*2	6	1	14

* Includes those used by chief inspector of Street Cleaning and Watering Sections.

Flushing.

Cost of Supervision.	Cost of Labor and Teams.	Cost of Repairs and Tools.	Total Cost.*	Square Yards Cared for.	Square Yards Flushed Once.	Gallons of Water Used.	Gallons of Water Used per Square Yard.	Cost per Thous. and Square Yards Flushed Once.†
\$441 25	\$3,505 49	\$128 87	\$4,075 61	387,430	12,505,549	2,439,400	0.195	\$0 326

* Not including cost of machines, \$3,873.

† Not including cost of water.

Calcide Process.

DISTRICT.	Square Yards Cared for.	Paid on Contract.	Cost of Inspection and Miscellaneous.	Total Cost per Square Yard.	Average Number of Treatments.	Average Days Served by One Treatment.	Miles Cared for.
West Roxbury.....	227,664	\$9,106 56	\$309 87	\$0 04136	7.826	27.33	14.44
Dorchester.....	180,847	7,233 88	309 86	0417	8.851	26.77	11.23
Totals.....	408,511	\$16,340 44	\$619 73	.....	.....	.....	25.67
Average.....	.....	.....	.....	\$0.04153	8.338	27.05	.....

Push Cart Patrol, by Districts.

DISTRICTS.	Inspection, Labor and Teams.	Barrel Loads Removed.	Cubic Yards Removed.	Cost per Cubic Yard.	Cost per Barrel.
1.....	\$2,637 34	6,354	824	\$3 20	\$0 415
2.....	812 25	2,199	281	2 89	369
3.....	1,526 64	3,172	411	3 71	481
7.....	5,508 82	15,593	2,021	2 72	353
10. Patrol system...	6,030 98	10,174	1,319	4 57	593
11.....	46,179 16	99,579	12,908	3 59	464
Totals.....	\$62,695 19	137,071	17,764	.....	.....
Average.....	.....	.....	.....	\$3 45	\$0 446.

Capacity of barrels	3½ cubic feet
Waste barrels emptied	14,561
Subway barrels emptied	818
Total	15,379

Push Cart Patrol System — Total Cost, Including Superintendence, Labor, Hired Teams and Maintenance.

Superintendence, Labor and Hired Teams.	Cart and Barrel Stock and Repairs.	Yard and Plant, Repairs and Furnishings.	Horse Furnishings and Shoeing.	Tools and Repairs.	Sand and Labor.	Dump, Labor and Rent.	Rent, Fuel, Light, Yard Labor.	Holidays Allowed, Time, etc.	Total Cost.	Barrels Emptied.	Cost per Barrel.	Cost per Cubic Yard.
\$61,560 13	\$1,921 46	\$73 06	\$87 75	\$295 94	\$610 55	\$1,147 67	\$3,736 23	\$1,346 50	\$70,779 29	137,071	\$0 516	\$3 98

Cost of Maintaining Horses.

Cost of Maintaining Horses on Basis of 365 Days per Year.

DISTRICTS.	SOUTH BOSTON.		EAST BOSTON.		CHARLESTOWN.		ROXBURY.		SOUTH STABLE.		WEST STABLE.		TOTALS.	
	17.1		10.6		11.5		9.1		46.1		33.1		127.5	
Items.	Total Cost per Year.	Cost per Horse per Day.	Total Cost per Year.	Cost per Horse per Day.	Total Cost per Year.	Cost per Horse per Day.	Total Cost per Year.	Cost per Horse per Day.	Total Cost per Year.	Cost per Horse per Day.	Total Cost per Year.	Cost per Horse per Day.	Total Cost per Year.	Cost per Horse per Day.
Labor.....	\$3,936 88	\$0 631	\$2,110 78	\$0 545	\$2,283 45	\$0 544	\$1,051 18	\$0 316	\$7,203 24	\$0 428	\$6,483 33	\$0 536	\$23,068 86	\$0 495
Hay and grain.....	3,769 68	604	2,231 44	577	2,460 36	586	2,325 29	700	10,434 25	619	6,569 74	543	27,790 76	597
Fuel, light, rent.....	1,365 60	219	2,055 39	531	154 13	037	109 61	033	329 56	019	232 68	019	4,246 97	091
Shoeing.....	544 50	087	412 00	106	420 00	101	278 50	084	1,956 75	116	1,441 25	119	5,053 00	109
Stable repairs.....	89 20	014	8 69	002	9 84	002	40 40	012	154 81	009	62 22	005	365 16	008
Veterinary services and medicine.....	219 61	035	113 80	029	120 30	029	96 48	029	711 86	042	373 93	031	1,635 98	035
Furnishings and repairs.....	304 12	050	264 27	068	95 77	022	206 97	062	830 67	049	301 27	025	2,003 07	043
Totals.....	\$10,229 59	\$1 640	\$7,196 37	\$1 858	\$5,543 85	\$1 321	\$4,108 43	\$1 236	\$21,621 14	\$1 282	\$15,474 42	\$1 278	\$64,163 80	\$1,378

**Amount of Hay, Straw, Oats and Shorts Used by the Street Cleaning
and Watering Sections for the Year 1909-10.**

Hay	712,560 lbs.
Straw	66,249 "
Shorts	18,000 "
Oats	20,143 bu.
Highest price paid for hay	\$20 50 per ton.
Lowest price paid for hay	15 40 "
Highest price paid for straw	34 75 "
Lowest price paid for straw	19 50 "
Highest price paid for shorts	31 25 "
Lowest price paid for shorts	26 50 "
Highest price paid for oats	67 per bu.
Lowest price paid for oats	44 $\frac{3}{4}$ "

STREET WATERING SERVICE.

Area Watered, Total Cost per Square Yard, and Amount of Water Used.

DISTRICT.	Maxi- mum Carts.	Total Watered Area, Square Yards.	EQUIVA- LENT Mileage, 30-foot Roadway.	DATES OF WATERING.		Number of Days One Cart or More Out.	Total Cost.	Cost per Square Yard.	Cart- days Worked.	Total Gallons of Water Used.
				First.	Last.					
1. South Boston.....	10	463,902	26.358	April 1	Nov. 22	157	\$6,988 929	\$0 01506	1,049.0	9,441,000
2. East Boston.....	6	149,367	8.496	April 1	Nov. 21	141	2,709 747	01814	318.5	2,866,500
3. Charlestown.....	5	245,649	13.927	April 1	Nov. 21	150	3,479 644	01410	443.0	3,987,000
4. Brighton.....	7	98,642	5.604	April 1	Nov. 22	134	2,851 117	02890	330.5	2,974,500
5. West Roxbury.....	8	126,627	7.194	April 2	Dec. 7	152	3,279 924	02589	426.0	3,834,000
6-9. Dorchester.....	19	345,656	19.639	April 1	Nov. 22	161	8,345 908	02414	1,247.0	11,223,000
7. Roxbury.....	12	220,734	12.541	April 1	Dec. 5	173	5,318 846	02409	908.5	8,176,500
8. South End and part of Rox- bury.....	13	395,870	22.492	April 1	Dec. 7	176	7,385 008	01865	1,372.0	12,348,000
10. City Proper.....	16	553,404	31.443	April 1	Dec. 7	181	11,311 697	02044	1,747.5	15,727,500
Totals.....	96	2,899,851	147.694	.....	.....	.....	\$51,670 820	\$0 18941	7,842.0	70,578,000
Average.....	.....	.....	.....	.....	.....	.....	.....	02103	.....	.....

REMARKS.—A watering cart distributes 15 loads per day. A load equals 600 gallons; 9,000 gallons distributed per day. Districts 4, 5 and 6-9 areas are not constant, as car track area on macadam streets were watered regularly to August 1, when oil was applied to some of the car track area.

Days Out, Cart-days Worked, Number of Carts Out, Cost of Teaming and Labor, by Months.

MONTH.	Days Out.	Cart-days Worked.	Average Cart-days Worked.	Number of Carts Out.	Average Carts Out.	Cost of Teaming.	Average Cost per Cart.	Cost of Labor.	Total Cost, Labor and Teaming.	Average Cost per Cart, Labor and Teaming.
1909.										
April.....	17	659.0	39	744	44	\$3,396 63	\$77 196	\$668 12	\$4,064 75	\$92 153
May.....	21	1,014.5	48	1,200	57	5,224 38	91 655	1,108 95	6,333 33	111 111
June.....	27	1,507.5	56	1,600	60	7,584 48	126 408	997 37	8,581 85	143 030
July.....	30	1,739.0	58	1,796	60	8,751 03	145 850	1,325 61	10,076 64	167 944
August.....	27	1,364.5	51	1,487	55	6,754 17	122 803	1,109 45	7,863 62	142 975
September.....	21	601.0	29	662	32	2,831 41	88 481	1,051 19	3,882 60	121 331
October.....	25	709.5	28	740	30	3,260 45	108 681	1,170 06	4,430 51	147 683
November.....	15	238.5	16	274	17	1,048 79	61 693	945 37	1,994 16	117 303
December.....	3	8.5	.....	9	.....	* 27 53	.....	317 72	345 25	.....
January, 1910.....	.....	.....	.....	.....	.....	.....	.....	124 65	124 65	.....
Totals.....	186	7,842.0	325	8,512	355	\$38,878 87	\$822 767	\$8,818 49	\$47,697 36	\$1,043 53
Less December and January.	183	7,833.5	325	8,503	355	38,851 34	822 767	8,376 12	47,227 46	1,043 53
Averages, April to November, inclusive....	23.1	979.18	40.6	1,056.6	44.3	.....	102 846	.....	.....	130 441

* December teaming roll paid from appropriation of 1910.
 NOTE.—Street Cleaning watering carts used regularly during the year.

Street Oiling—Table Showing Cost of Labor, Teaming, Oil, etc., Including Superintendence, for the Year Ending January 27, 1910.

District.	Total Oiled Area (Square Yards).	Equivalent Milage, 30-foot Roadway.	Area Covered Once (Square Yards).	DATES OF OILING.		Number of Times Districts Treated.*	Total Cost.	COST PER SQUARE YARD.		Total Emulsion Used (Gallons).†	Emulsion per Sq. Yard of Total Oiled Area.†	Total Water Used (Gallons).
				First.	Last.			Covered Once.	Entire Season.			
1. South Boston.....	484,842	27.547	3,952,028	April 17	Nov. 22	8.151	\$10,259 9890	\$0 002601	\$0 02120	139,616	0.2879	418,500
2. East Boston.....	424,568	24.123	4,333,840	April 21	Nov. 1	10.207	8,400 8790	001938	01978	119,052	.2804	357,300
3. Charlestown.....	162,791	9.249	1,392,735	April 21	Oct. 29	8.555	3,515 4790	002520	02155	46,062	.2829	138,150
4. Brighton.....	682,223	38.760	4,419,058	April 2	Nov. 16	6.477	11,402 4131	002580	01671	201,783	.2957	673,390
5. West Roxbury.....	811,941	46.133	3,896,685	March 31	Dec. 7	4.799	15,099 9990	003870	01851	179,723	.2213	538,650
6-9. Dorchester.....	1,361,853	77.335	9,479,659	March 23	Dec. 7	6.9608	21,179 4937	002230	01552	363,150	.2666	1,179,413
7. Roxbury.....	847,853	48.173	6,962,819	March 22	Dec. 9	8.212	14,017 5331	002010	01650	240,450	.2835	801,517
8-10. South End, Back Bay and part of Rox- bury.....	718,765	40.839	8,950,574	Feb. 27	Dec. 6	12.452	14,683 4537	001640	02042	237,231	.33005	789,684
Totals.....	5,494,836	312.159	43,387,398	.....	.....	65.8138	\$98,559 2396	0 019389	0 15025	1,527,067	2.2483	4,896,604
Averages.....	.....	.....	.....	.....	.....	8.2267	.....	0 002423	01878	.....	.28104	.....

* Area covered once divided by total oiled area.

† Gallons.

CRS. Post er sand quare ards aned nce.	LOADS OF DIRT REMOVED.		CUBIC YARDS OF DIRT REMOVED.		Cost per Cubic Yard of Dirt Removed.
	Total.	Per Thousand Square Yards.	Total.	Per Thousand Square Yards.	
373	7,332	.16	14,664	.33	\$1 132
707	6,277	.39	12,554	.78	905
481	6,947	.27	13,894	.54	893
907	2,327	.37	4,654	.74	1 220
553	7,566	.30	15,132	.61	910
398	6,615	.19	13,230	.37	1 074
332	14,528	.14	29,056	.29	1 155
366	4,430	.19	8,860	.39	941
393	7,374	.19	14,748	.38	1 012
471	7,432	.22	14,864	.44	1 051
.....	70,828	.....	141,656		
498	.....	.24	.....	.48	\$1 034

STREET CLEANING SERVICE.
Machine Sweeping of Paved Streets and Gutters.

DISTRICT NUMBER.	PAVED STREETS.		GUTTERS.		TOTAL.	PAVED STREETS.			GUTTERS.			PAVED STREETS AND GUTTERS.			LOADS OF DIRT REMOVED.		CUBIC YARDS OF DIRT REMOVED.		Cost per Cubic Yard of Dirt Removed.
	Miles Cleaned Once.	Thousand Square Yards Cleaned Once.	Miles Cleaned Once.	Thousand Square Yards Cleaned Once.	Thousand Square Yards Cleaned Once.	Total Cost.	Cost per Mile Cleaned Once.	Cost per Thousand Square Yards Cleaned Once.	Total Cost.	Cost per Mile Cleaned Once.	Cost per Thousand Square Yards Cleaned Once.	Total Cost.	Cost per Mile Cleaned Once.	Cost per Thousand Square Yards Cleaned Once.	Total.	Per Thousand Square Yards.	Total.	Per Thousand Square Yards.	
1.....	1,901.80	39,938	869.69	4,592	44,530	\$14,208 76	\$7 47	\$0 356	\$2,389 04	\$2 75	\$0 520	\$16,597 80	\$5 99	\$0 373	7,332	.16	14,664	.33	\$1 132
2.....	583.47	12,428	687.88	3,632	16,060	5,870 09	10 01	472	5,496 66	7 99	1 513	11,366 75	8 94	707	6,277	.39	12,554	.78	905
3.....	1,048.68	23,805	380.11	2,010	25,815	10,036 51	9 57	422	2,371 49	6 24	1 179	12,408 00	8 68	481	6,947	.27	13,894	.54	893
6.....	173.69	3,578	507.58	2,680	6,258	3,164 91	18 22	884	2,513 33	4 95	937	5,678 24	8 33	907	2,327	.37	4,654	.74	1 220
7.....	1,043.30	23,057	353.41	1,866	24,923	10,591 05	10 15	459	3,185 79	9 01	1 707	13,776 84	9 86	553	7,566	.30	15,132	.61	910
8.....	1,646.68	33,263	459.09	2,424	35,687	11,426 08	6 93	343	2,778 50	6 05	1 146	14,204 58	6 74	398	6,615	.19	13,230	.37	1 074
8. Downtown.	4,982.47	100,646	89.96	475	101,121	33,560 58	6 74	333	.....	.....	.....	33,560 58	6 62	332	14,528	.14	29,056	.29	1 155
9.....	949.90	19,188	698.11	3,686	22,774	3,208 01	3 37	167	5,132 81	7 35	1 392	8,340 82	5 06	366	4,430	.19	8,860	.39	941
10. West End.	1,846.38	37,297	129.16	682	37,979	14,929 74	8 08	400	.....	.....	.....	14,929 74	7 56	393	7,374	.19	14,748	.38	1 012
10. North End.	1,642.87	33,186	.....	.....	33,186	15,624 19	9 51	471	.....	.....	.....	15,624 19	9 51	471	7,432	.22	14,864	.44	1 051
Totals	15,819.24	326,386	4,174.99	22,047	348,333	\$122,619 92	.....	.....	\$23,867 62	.....	.....	\$146,487 54	.....	.....	70,828	.....	141,656	.....	.....
Averages .....	.....	.....	.....	.....	.....	.....	\$9 00	\$0 431	.....	\$6 33	\$1 199	.....	\$7 73	\$0 498	.....	.24	.....	.48	\$1 034

APPENDIX E.

REPORT OF THE DEPUTY SUPERINTENDENT OF THE SEWER DIVISION.

BOSTON, MASS., February 1, 1910.

MR. GUY C. EMERSON,
Superintendent of Streets:

DEAR SIR,— I respectfully submit report of the expenditures, income and operation of the Sewer Division for the financial year ending January 31, 1910.

Yours respectfully,

C. B. PRATT,
Deputy Superintendent.

The work of the division is carried on under chapter 3, City Ordinances, 1908, and chapter 47, Revised Ordinances, 1898, and the following statutes:

Chapter 426—1897, as amended by 450—1899, and 268—1903.

Chapter 383—1903, as amended by 464—1907.

Chapter 485—1907.

Chapter 550—1907.

Chapter 204—1908.

Chapter 514—1908.

THE DUTIES OF THE SEWER DIVISION.

1. Preparation of plans for sewerage works.
2. Construction and maintenance of all drainage works.
3. Investigation of complaints in regard to defective drainage.
4. The granting of permits for sewer construction.
5. The preparation of plans for the assessment of the cost of sewer construction.
6. The examination of the plans of other corporations proposing to construct works in public streets with reference to their probable interference with sewerage works.

Total number of employees on pay roll February 1, 1909	608
Total number of employees on pay roll February 1, 1910	621
Total amount of weekly pay roll February 1, 1909	\$10,173.50
Total amount of weekly pay roll February 1, 1910	*\$10,181.35
Total amount of monthly pay roll February 1, 1909	\$617.00
Total amount of monthly pay roll February 1, 1910	\$617.00
Average weekly pay roll, including monthly roll, for fiscal year amounted to	\$10,472.93
Charged as follows:	
Maintenance	†\$3,771.88
Sewerage works	2,405.51
Separate systems of drainage	4,295.54
Average number of men employed	628
Average number of horses maintained by the division during the year	49
The rate of wages per day paid to common laborers	\$2.25

* Of this amount there was charged on account of snow to the Sanitary and Street Cleaning Division \$2,400 78
 Highway Division 341 71

\$2,742 49

† Includes sums charged to Sanitary and Street Cleaning Division \$10,424 20
 Highway Division 4,999 25

\$15,423 45

Financial Statement from February 1, 1909, to January 31, 1910.

OBJECT.	Balances on hand Feb. 1, 1909.	Appropriations, Loans and Transfers.	Revenue Received during the Year.	Total Credits.	Expenditures during the Year.	Balances Unexpended Jan. 31, 1910.
Sewer Division.....	.....	* \$311,435 92	\$1,507 36	\$312,943 28	\$301,145 94	\$11,797 34
Sewerage Works.....	\$51,295 77	300,000 00	.....	351,295 77	324,165 73	27,130 04
Separate Systems of Drainage.....	231,623 71	664,000 00	.....	895,623 71	582,162 57	313,461 14
Totals.....	\$282,919 48	\$1,275,435 92	\$1,507 36	\$1,559,862 76	\$1,207,474 24	\$352,388 52

* Original appropriation	\$350,000 00
Less transfers:	
Neponset Bridge.....	\$13,000 00
Park Department.....	10,237 69
Health Department.....	15,326 39
	38,564 08
	\$311,435 92

MAINTENANCE EXPENDITURES, FEBRUARY 1, 1909, TO
JANUARY 31, 1910.

SEWER DIVISION.

Improved Sewerage.

Pumping station, inside	\$49,245 12	
Pumping station, outside	13,521 88	
Pumping station, engines	22,750 92	
Pumping station, boilers	15,765 70	
		\$101,283 62
Moon Island		16,371 76
Main and intercepting sewers		18,975 24
Towboat and towing	\$3,781 15	
Less amount paid by Sanitary Division	426 48	
		3,354 67
Office salaries		3,000 00
		\$142,985 29

Stony Brook.

Maintenance	3,858 55
-----------------------	----------

Miscellaneous Maintenance Charges.

Cleaning catch-basins		31,379 97
Yard and lockers		6,445 14
Employed at yards		18,624 35
Horses, carts, harnesses, etc.	\$19,999 78	
Less amount earned by division teams	9,754 55	
		10,245 23
Automobiles		4,717 45
Garage, West Roxbury		3 00
Cleaning sewers		33,487 47
Office salaries		13,709 67
Office expenses		3,509 23
Culverts, repairing and maintaining	\$1,067 14	
Repairing department buildings	877 05	
Repairing catch-basins, South Boston	218 15	
Repairing catch-basins, East Boston	514 82	
Repairing catch-basins, Charlestown	60 97	
Repairing catch-basins, Brighton	183 74	
Repairing catch-basins, West Roxbury	324 62	
Repairing catch-basins, Dorchester	401 31	
Repairing catch-basins, Roxbury	1,333 73	
Repairing catch-basins, city proper	1,768 81	
Repairing sewers, South Boston	346 90	
Repairing sewers, East Boston	545 49	
Repairing sewers, Charlestown	265 40	
Repairing sewers, Brighton	1,067 83	
Repairing sewers, West Roxbury	378 89	
Repairing sewers, Dorchester	883 43	
Repairing sewers, Roxbury	1,265 60	
Repairing sewers, city proper	1,537 39	
		13,041 27
Fuel and oil		1,179 47
Hardware, tools, etc.		2,834 94
Carried forward		\$286,021 03

Sewer Division.—Maintenance Expenditure, Detail, 1909-10.

ACCOUNTS.	Total Expenditure.	Labor.	Contracts.	Teaming.	Insurance.	Waste.	Coal.	Oil and Gasolene.	Packing.	Valves.	Car Fares.	Stable.	Pipe Fittings and Miscellaneous Supplies.	Towing.
Pumping station, inside	\$49,245 12	\$20,300 52	\$170 00	.....	\$411 23	\$173 32	\$24,025 73	\$200 86	\$69 68	\$684 30	.....	.....	\$3,209 48	
" " outside,	13,521 88	9,240 68	1,897 00	.....	.....	.....	.....	17 00	.....	.....	\$23 94	\$906 74	729 02	\$707 50
" " engines	22,750 92	18,848 58	177 57	.....	.....	41 69	.....	736 05	751 52	1,774 71	.....	.....	420 80	
" " boilers	15,765 70	14,972 75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	792 95	
Moon Island	16,371 76	9,301 61	4,960 00	.....	139 36	8 45	317 15	24 29	.....	.....	574 90	431 63	614 37	
Office salaries, superintendent.	3,000 00	3,000 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Towboat and towing	3,781 15	318 26	.....	.....	88 53	3 25	995 46	41 35	.....	.....	.....	.....	410 47	1,923 83
Main and intercepting sewers . .	19,415 49	13,223 99	.....	\$581 56	195 44	6 96	120 26	193 41	.....	.....	21 27	882 53	4,190 07	
<i>Credits.</i>	\$143,852 02	\$89,206 39	\$7,204 57	\$581 56	\$834 56	*\$233 67	*\$25,458 60	*\$1,212 96	*\$821 20	\$2,459 01	\$620 11	\$2,220 90	\$10,367 16	\$2,631 33
Towboat:														
Amount paid by Sanitary . . .	\$426 48	\$299 54	.....	.....	.....	.....	\$126 94	.....	.....	.....	.....	.....	.....	
Main and intercepting sewers:														
Amount earned by depart- ment teams	440 25	330 19	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$110 06	.....	
Total credits	\$866 73	\$629 73	.....	.....	.....	.....	\$126 94	.....	.....	.....	.....	\$110 06	.....	
Totals	\$142,985 29	\$88,576 66	\$7,204 57	\$581 56	\$834 56	\$233 67	\$25,331 66	\$1,212 26	\$821 20	\$2,459 01	\$520 11	\$2,110 84	\$10,367 16	\$2,631 33

* See notes on page 338 marked with stars.

<i>Brought forward</i>	\$286,021 03
Sundries	2,621 26
Damages, claims and medical attendance	973 86
Telephones not included elsewhere	1,672 88
House connections	6,205 59
Rubber goods	546 90
Gatehouse, Fenway	436 58
Corporation work	60 00
Stock	3,314 23

Miscellaneous Charges.

Edison Electric Illuminating Company	156 64
Water Department	111 67
Transit Commission	123 46
Dredging	858 64
Consumptives' Hospital	21 59
Boston Elevated Railway Company	646 76
Engineering Department	211 95
Park Department	59 72
	\$304,042 76

Credit.

Amount earned by division engines	2,896 82
	\$301,145 94

Amount Collected by City Collector and Credited to Appropriation for Sewer Division Maintenance, February 1, 1909, to January 31, 1910.

Boston Consolidated Gas Company	\$109 06
Boston Water Department	58 23
Public Buildings Department	30 00
Transit Commission	64 20
Ferry Division, Street Department	8 40
Edison Electric Illuminating Company	156 64
Park Department	59 72
Boston Elevated Railway Company	529 14
Engineering Department	211 95
Consumptives' Hospital Department	21 59
J. H. Sullivan Company	49 63
East Boston Gas Company	18 00
City of Chelsea	137 92
Wood Pollard Company	3 88
Metropolitan Water and Sewerage Board	49 00
	\$1,507 36

Appropriation for 1909-10	\$350,000 00
Collections for 1909-10	1,507 36
	\$351,507 36

Transfers by auditor:	
Neponset Bridge	\$13,000 00
Park Department	10,237 69
Health Department	15,326 39
Balance to City Treasurer	11,797 34
	50,361 42
	\$301,145 94

Sewer Division.—Maintenance Expenditure, Detail, 1909-10.—Continued.

ACCOUNTS.	Total Expendi- ture.	Labor.	Teaming.	Stock.	Contracts.	Miscellaneous.
Repairing Department:						
Buildings.....	\$877 05	\$420 13	\$13 50	\$443 42		
Repairing catch-basins, South Boston.....	218 15	119 64	17 25	81 26		
“ “ East Boston.....	514 82	362 36	65 25	87 21		
“ “ Charlestown.....	60 97	25 51	7 50	27 96		
“ “ Brighton.....	183 74	114 16	34 50	35 08		
“ “ West Roxbury.....	324 62	191 14	16 50	116 98		
“ “ Dorchester.....	401 31	269 21	50 25	81 85		
“ “ Roxbury.....	1,333 73	723 94	242 25	387 54		
“ “ city proper.....	1,768 81	561 40	243 00	964 41		
“ “ sewers, South Boston.....	346 90	143 29	30 00	173 61		
“ “ East Boston.....	545 49	403 40	42 00	100 09		
“ “ Charlestown.....	265 40	155 10	37 95	72 35		
“ “ Brighton.....	1,067 83	528 49	199 70	339 64		
“ “ West Roxbury.....	378 89	272 51	60 00	46 38		
“ “ Dorchester.....	883 43	466 83	85 00	331 60		
“ “ Roxbury.....	1,265 60	869 99	180 38	215 23		
“ “ city proper.....	1,537 39	790 71	175 13	571 55		
Automobiles (3).....	4,717 45	1,092 00				New automobile..... \$1,185 00 Repairs and supplies..... 2,246 95 Insurance..... 193 50 \$3,625 45
Back Bay Fens gatehouse.....	436 58	201 63				Electric light..... \$227 50 Gasolene..... 7 45 234 95
Cleaning catch-basins.....	31,379 97	*5,859 31	320 65		\$24,973 16	Salt..... \$26 15 Sulpho naphthol..... 25 Advertising..... 28 78 Car fares..... 120 22 Blacksmithing..... 1 75 Dumping..... 22 00 Tapes and rules..... 27 70 226 85

Cleaning sewers.....	33,487 47	11,151 31	4,522 76	12,243 55	Advertising..... \$80 91 Dumping..... 445 25 Car fares..... 12 05 Rods..... 353 00 Machines, cleaning: Machines, \$2,604 50 Labor.... 1,975 50 Sundries..... 4,580 00 98 64 5,569 85 37 41
Culverts, repairing and maintaining.....	1,067 14	711 73	318 00		Accidents, allowance.....
Damages, claims and medical attendance.....	973 86				on account of..... \$662 60
					Water Department... 295 76
					Repairs to awning... 3 50
					Medical services..... 12 00
Employed at yards.....	18,624 35	18,624 35			Coal..... \$761 33
Fuel and oil.....	1,179 47				Oil..... 418 14
Hardware and tools.....	2,834 94				18 doz. picks..... } \$224 52 39 " pick handles... } 34 " shovels..... 421 79 Hose..... 756 10 Canvas..... 179 90 Hardware, repairs, etc., 1,227 40 Waste..... 25 23
House connections.....	6,205 59	5,605 08	83 25		Stock..... \$232 47
					Car fares..... 284 79
Maintenance, Stony brook.....	3,858 55	3,078 76	756 75		Stock.....
Office expense.....	3,509 23				Printing..... \$2,464 73
					Advertising..... 4 13
					Registry of Deeds, re- cording..... 30 85
					Car fares..... 14 15
					Stationery, etc..... 995 37
Office salaries.....	13,709 67	13,709 67			Monthly..... \$2,400 00
					Weekly..... 11,309 67

* Includes inspection on contracts, \$4,301.60.

Sewer Division.—Maintenance Expenditure, Detail, 1909-10. — *Concluded.*

ACCOUNTS.	Total Expendi- ture.	Labor.	Teaming.	Stock.	Contracts.	Miscellaneous.
Rubber goods.....	\$546 90					\$546 90
Stock.....	3,314 23	\$564 00	\$310 47			2,439 76
Sundries.....	2,621 26	875 98	39 00		\$50 00	
						Car fares..... \$173 30
						Legal services..... 500 00
						Legal notices..... 10 32
						Stock..... 123 88
						Automobile licenses..... 10 75
						Chemical analysis..... 50 00
						Photographs..... 52 00
						Advertising..... 137 40
						Engineering..... 140 00
						Paving, etc..... 401 81
						Miscellaneous..... 56 82
						1,656 28
City of Boston, Water Department.....	111 67	72 94	6 00	\$32 73		
Park Department.....	59 72			59 72		
Consumptives' Hospital.....	21 59			21 59		
Engineering Department.....	211 95			211 95		
Transit Commission.....	123 46	82 38		41 08		
Edison Electric Illuminating Company.....	156 64	58 51	15 75	82 38		
Dredging docks.....	858 64					858 64
Garage, West Roxbury.....	3 00					Electricity..... \$2 00
						Repairs..... 1 00
						3 00
Corporation work.....	60 00	60 00				
Boston Elevated Railway Company.....	646 76	393 22	44 25	209 29		Rent..... \$5,179 28
Yard and locker.....	6,445 14		177 75			Gas..... 188 46
						Stock..... 180 65
						Sundries..... 719 00
Telephones.....	1,672 88					6,267 39
						1,672 88

[illegible]

Recapitulation.— Maintenance Detail, 1909-10.

	Improved Sewerage.	Outside Improved Sewerage.	Total.
Labor.....	\$89,206 39	\$93,771 09	\$182,977 48
Contracts.....	7,204 57	37,266 71	44,471 28
Teaming, hired and city.....	581 56	8,255 99	8,837 55
Insurance.....	834 56		834 56
Waste *.....	233 67	32 73	266 40
Coal *.....	25,458 60	761 33	26,219 93
Oil *.....	1,212 96	584 23	1,797 19
Packing *.....	821 20	19 08	840 28
Valves.....	2,459 01	133 12	2,592 13
Car fares.....	620 11	604 51	1,224 62
Horses, etc.....	2,220 90	10,689 34	12,910 24
Towing *.....	2,631 33		2,631 33
Pipe fittings and miscellaneous.....	10,367 16		10,367 16
Rent.....		5,179 28	5,179 28
Telephones.....		1,672 88	1,672 88
New automobile, repairs, supplies and insurance.....		3,625 45	3,625 45
Stock and miscellaneous supplies.....		25,061 78	25,061 78
	\$143,852 02	\$187,657 52	\$331,509 54
CREDITS.			
<i>Improved Sewerage.</i>			
Labor.....	\$629 73		
Coal.....	126 94		
Stables.....	110 06		
	866 73		
<i>Outside Improved Sewerage.</i>			
Labor.....	\$19,367 14		
Miscellaneous.....	10,129 73		
		29,496 87	30,363 60
Totals.....	\$142,985 29	\$158,160 65	\$301,145 94

* WASTE.	
2,285 pounds at 6½c. to 8c.....	\$173 32
538 pounds at 7½c.....	41 69
130 pounds at 6½c.....	8 45
50 pounds at 6½c.....	3 25
107 pounds at 6½c.....	6 96
3,110 pounds.....	\$233 67

* TOWING.	
Boston Tow Boat Company.....	\$707 50
Sanitary Division.....	1,923 83
	\$2,631 33

* COAL.	
7,243 tons 44 pounds soft.....	\$24,025 73
248 tons 1,730 pounds soft.....	995 46
50 tons 967 pounds hard.....	317 15
20 tons hard.....	120 26
7,561 tons 2,741 pounds.....	\$25,458 60

* PACKING.	
1,057½ pounds at 20c. to \$2.50.	
16½ pounds gaskets 39c.	
Grease, \$6.25; oiler, \$4.50.....	\$821 20

* OIL.	
929.2 gallons cylinder at.....	\$0 32
10 gallons cylinder at.....	35
1,654.1 gallons engine at.....	24
150 gallons engine at.....	18
60.75 gallons lard at.....	84 and 75
99 gallons sperm at.....	82
15 barrels illuminating.....	08 and 8½
425 gallons street at.....	04
10 gallons signal at.....	55
25 gallons Packard at.....	50
1,326 gallons gasoline at.....	10½ to 14
Total.....	\$1,212 96

* See note on table facing page 362.

Coal at Pumping Station.

DATE.	Contractor.	Tons.	PAID IN 1909-10.	
			Per Ton.	Total.
Feb. 19..	Clark Brothers Coal Mining Company (barge "Flora").	1,485 773-2240	\$3 54	\$5,258 12
Feb. 4..	Clark Brothers Coal Mining Company (barge "Thaxter").	619 2135-2240	3 50	2,169 84
March 19..	Clark Brothers Coal Mining Company (barge "Grace").	1,510 1755-2240	3 56	5,378 39
April 29..	Batchelder Brothers.....	1	.....	4 25
Aug. 2..	Batchelder Brothers.....	1	.....	4 25
Aug. 27..	Bader Coal Company (barge "Yemassee").	1,252 2235-2240 Less penalty..	3 27 05	4,034 65
Oct. 30..	Bader Coal Company (schooner "Daylight").	475 2117-2240 Less penalty..	3 27 12	1,499 23
Dec. 16..	Bader Coal Company.....	113.437	3 27	370 94
Dec. 27..	Bader Coal Company (barge "Ivie").	1,780 1249-2240 Less penalty..	3 27 29	5,306 06
Totals.	.....	7,243 tons 44 lbs.	.....	\$24,025 73

Catch-basins Cleaned by Contract, 1909-10.

District.	Contractor.	Start and Finish of Contract.	Price per Cubic Yard.	Total Cubic Yards Excavated.	Contractor Received.	Total Basins Cleaned.	Average Cubic Yards per Basin.	Contractor Average per Basin.	Inspection.	Per cent of Cost for Inspection.	Average Cost to City per Basin.	Average Number Basins Cleaned per Day.
1. South Boston...	P. J. Allen.....	{April 6, 1909} {Nov. 12, 1909}	\$1.16	3,156.1	\$3,661 08	899	3.51	\$4 07	\$282 43	7.1	\$4 38	10.3.
2. East Boston....	J. H. Ferguson...	{March 18, 1909} {Dec. 27, 1909}	1 38	1,406.5	1,940 98	449	3.13	4 32	418 17	17.3	5 23	3.5
3. Charlestown....	J. F. Nyhan.....	{March 15, 1909} {Nov. 26, 1909}	1 30	1,658.7	2,156 31	508	3.26	4 24	449 93	16.7	5 10	3.8
4. Brighton.....	J. McGreevey...	{March 18, 1909} {Dec. 24, 1909}	1 00	2,337.6	2,337 60	698	3.35	3 35	407 33	14.7	3 93	6.5
5. West Roxbury..	J. McGreevey...	{April 8, 1909} {Dec. 23, 1909}	1 00	2,804.4	2,804 40	869	3.23	3 23	*480 35	14.0	3 76	6.7
6. Dorchester....	P. J. Allen.....	{March 18, 1909} {Nov. 16, 1909}	85	3,702.9	3,147 49	1,064	3.48	2 96	429 60	11.7	3 35	8.0
7-8. Roxbury and city proper...	J. McGreevey...	{Feb. 19, 1909} {Dec. 24, 1909}	1 14	4,031.2	4,595 55	1,250	3.22	3 68	921 83	16.1	4 39	5.1
9-10. City proper....	J. W. Collins....	{March 3, 1909} {Jan. 31, 1910}	1 34	4,432.1	5,939 01	1,252	3.54	4 74	†1,075 71	14.9	5 58	5.0

Total basins cleaned..... 6,989
Total excavation..... 23,529.5 cubic yards
Average per basin..... 3.36 cubic yards
Average cost per basin..... \$4.45
Average cost per cubic yard..... \$1.32

Total cost: Contractors..... \$26,582.42
Inspection..... \$4,465.35
Advertising and printing..... 28.78
Miscellaneous..... 30.95
\$31,107.50

* \$2.10 paid in 1910.

† \$36.50 paid in 1910.

‡ \$1,943.76 paid in 1910.

\$ \$125.15 car fares, etc.

I
I

I
I
I

E
E
A
P
L
C
F
S
D
H
J
K
N
O
Q
R
T
U
V
W
X
Y
Z

SEWER CONSTRUCTION.

PIPE AND MASONRY SEWERS BUILT BY DAY LABOR, BY DISTRICTS.—*Continued*

PIPE AND MASONRY SEWERS BUILT BY CONTRACT, BY DISTRICTS.—*Concluded.*

PIPE AND MASONRY SEWERS BUILT BY PRIVATE PARTIES, BY DISTRICTS.

Expenditures, February 1, 1909, to January 31, 1910.

ACCOUNTS.	Labor.	Teaming.	Materials.	Hired and Department Machinery.	Contracts.	Miscellaneous.	Total.
Engineers' salaries *	\$35,291 85						\$35,291 85
Engineers' expense *	550 93	\$59 25				\$3,446 72	4,056 90
Office salaries	9,240 53						9,240 53
Pumping station	5,515 39	45 85	\$8,769 98		\$26,859 36	29 96	41,220 54
Sundries	170 50	23 25	871 67		594 53	326 88	11,986 83
Land-takings and court executions *						6,851 97	6,851 97
New manholes, entire city	1,026 13	292 62	628 41			2 78	1,949 94
New catch-basins, South Boston	206 25	69 50	186 91			6 15	468 81
New catch-basins, East Boston	142 71	36 00	125 00				303 71
New catch-basins, Brighton	46 65	12 00					58 65
New catch-basins, West Roxbury	479 47	103 50	362 10				945 07
New catch-basins, Dorchester	2,882 83	409 70	2,057 67			29 90	5,380 10
New catch-basins, Roxbury	403 15	71 25	610 23		426 91	1 79	1,513 33
New catch-basins, city proper	223 46	76 50	163 60			3 52	467 08
Automatic gauge, Hereford street			157 90	\$40 00			197 90
Sewers built in entire city	68,373 82	8,198 67	24,634 39	5,176 13	106,154 14	1,695 37	214,232 52
Totals	\$124,553 67	\$9,398 09	\$38,567 86	\$5,216 13	\$134,034 94	\$12,395 04	\$324,165 73

* See detail on page 376.

† Includes cost of extending Cottage street outlet, East Boston, \$240.81.

Sewerage Works.

LOCATION.	Built by	Labor.	Teaming.	Materials, etc.	Hired and Depart- ment Ma- chinery.	Miscel- laneous.	Engineer- ing.	Contracts.	Total.	Remarks.
A street, from West First street to Mt. Washington avenue, South Boston.	Day labor.....	\$6,420 72	\$1,243 01	\$5,860 60	\$1,652 38	\$390 82	\$397 00	\$1,786 18	\$17,750 71	Begun in 1908.
Albany and Seneca streets, city proper.	Day labor.....	9,246 53	1,419 50.	3,942 62	1,649 75	111 50	317 37	354 76	*17,042 03	
Ambrose street, from Chadwick street to 50 feet northwest, Roxbury.	Day labor.....	135 76	10 50	46 45	.....	.....	6 00	.....	198 71	
Ashley street, from Bennington street to Breed street, East Boston.	G. M. Bryne Company, con- tractor.	.....	.....	.....	.....	.....	.....	229 58	229 58	Built in 1908.
Ashley street, from Breed street, 293 feet west, East Boston.	Day labor.....	3,487 66	307 20	1,321 20	168 00	33 44	62 00	307 20	*5,686 70	
Austin avenue, from Faxon street to Saratoga street, East Boston.	Day labor.....	389 34	25 50	120 00	.....	.....	6 17	.....	541 01	
Alpha road, from Waldeck street to Park street, Dorchester.	E. F. Kennelly, contractor...	77 00	.....	145 52	.....	.....	35 00	1,034 72	1,292 24	5 catch-basins included.
Beaumont street, from Adams to Car- uth street, Dorchester.	Day labor.....	3,031 67	304 50	950 10	.....	81 35	121 75	.....	*4,489 37	7 catch-basins included.
Beverly and Causeway streets, city proper.	Day labor.....	1,463 83	64 50	.....	.....	.....	176 00	.....	*1,704 33	
Broad street, from Custom House street to India square, city proper.	D. E. Lynch, contractor.....	.....	.....	.....	.....	.....	.....	542 78	542 78	Built in 1908; paving.
Breed and Ford streets, East Boston.	Day labor.....	2,788 23	254 00	988 61	39 00	14 80	83 96	.....	4,168 60	
Breed street, from 90 feet north of Ashley street to Leyden street, East Boston.	Day labor.....	570 27	58 50	136 40	.....	6 20	24 76	.....	796 13	

Chadwick street and Orchard park, Roxbury.	Day labor	2,065 40	168 75	740 59	.....	7 98	170 00	.....	3,152 72
Clement park, from Dayton street 175 feet south, Dorchester.	Day labor	245 84	10 50	89 05	.....	.....	.....	.....	345 39
Codman street, from Dorchester avenue to Washington street, Dorchester.	J. Donley, contractor .....	.....	.....	.....	.....	.....	.....	191 55	191 55 Built in 1908.
Condor street, from Putnam street to Brooks street, East Boston.	Day labor	1,341 20	180 75	407 01	.....	121 68	19 25	.....	2,069 89
Dent street brook, West Roxbury.	Day labor	60 50	7 50	.....	.....	.....	.....	.....	68 00
Fairland street, from Winthrop street to 170 feet northeast, Roxbury.	Day labor	138 89	28 50	82 44	.....	4 96	26 50	.....	281 29
Farnham street, from 525 feet south- east of Gerard street to 265 feet southeast, Roxbury.	J. H. McCarthy, contractor ..	52 50	3 00	21 44	.....	.....	21 00	454 50	552 44
Frankfort and Cottage streets, East Boston.	J. H. Ferguson, contractor ..	249 50	.....	44 08	.....	28 59	156 28	5,047 99	5,526 44
Fremont street, from Blue Hill avenue to Norfolk street, Dorchester.	J. H. Ferguson, contractor ..	98 00	.....	20 84	.....	14 04	39 00	877 04	1,048 92
Ford and Breed streets, East Boston.	Day labor	4,524 77	337 00	938 52	93 00	40 24	38 75	.....	*5,972 28
Glendon street, from Condor street to East Eagle street, East Boston.	Day labor .....	.....	40 25	147 28	.....	28 65	.....	.....	216 18 Built in 1908.
Gove and Lubec streets, East Boston.	T. J. Young Company, con- tractor.	325 75	3 00	100 22	.....	14 70	175 30	10,388 79	11,007 76
Kemble street, from Gerard street to 240 feet southeast, Roxbury.	Day labor	319 98	56 25	143 02	.....	.....	31 00	.....	550 25
Lyndeboro street, from Essex street to Middlesex street, Charlestown.	J. Guarino, contractor	68 87	3 00	23 20	.....	13 80	51 71	676 24	836 82
Leverett street, from Charles street to 132 feet west, city proper.	Day labor	3,878 15	652 55	1,513 22	505 00	2 45	232 00	213 27	6,996 64

* Not complete.

Sewerage Works.—Concluded.

LOCATION.	Built by.	Labor.	Teaming.	Materials.	Hired and Department Machinery.	Miscellaneous.	Engineering.	Contracts.	Total.	Remarks.
Leyden street, from Breed street to 1,200 feet west, East Boston.	Day labor.....	\$3,314 75	\$216 00	\$366 01	.....	\$15 75	\$58 00	.....	*\$3,970 51	
Merchants row, from North street to North Market street, city proper.	Day labor.....	1,515 77	231 68	325 70	\$145 00	.....	156 75	.....	2,374 90	
North street, from North Centre street to 165 feet north, city proper.	Day labor.....	1,681 85	314 25	628 99	186 00	.....	178 31	.....	*2,989 40	
North Munroe terrace, from Neponset avenue to Train street, Dorchester.	T. McCarthy, contractor....	.....	3 00	.....	.....	.....	.....	\$150 74	153 74	Built in 1908.
North Market street, from Commercial street to Faneuil Hall square, city proper	Coughlan & Sheels Company, contractor.	588 50	.....	.....	.....	121 65	360 00	12,065 17	*13,135 32	
Oak street, from Harrison avenue to May place, city proper.	Day labor.....	.....	.....	25 71	.....	.....	.....	.....	25 71	Built in 1908.
Old Colony avenue, from Dorchester street to Dorchester avenue, South Boston.	T. J. Young Company, contractor.	269 25	51 75	890 80	.....	12 66	559 00	10,172 00	11,955 46	22 catch-basins included.
Pike and Perch streets, Roxbury....	Day labor.....	768 75	99 75	395 21	.....	14 15	40 00	.....	1,317 86	
Putnam street, from Condor street to White street, East Boston.	Day labor.....	75 24	166 00	438 17	.....	91 74	.....	.....	771 15	Built in 1908.
Putnam street and Glendon street, East Boston.	D. E. Lynch, contractor....	.....	.....	.....	.....	.....	.....	176 35	176 35	Built in 1906 and 1907.
Poplar street, from outlet Section No. 2, West Roxbury.	Trimount Contracting Company.	.....	.....	.....	.....	178 67	.....	.....	178 67	Built in 1907 and 1908.
Phillips street, from Ward street to Longwood avenue, Roxbury.	Day labor.....	.....	.....	14 06	.....	.....	.....	.....	14 06	Built in 1908.

Prescott and Lubec streets, East Boston.	William J. Walsh, contractor.	655 75	28 50	404 89	14 95	313 76	14,603 37	16,021 22	12 catch-basins included.
Porter street, from 60 feet southeast of Frankfort street to 35 feet southeast Cottage street, East Boston.	Peter W. Hill, contractor.	601 00	4 50	.....	84 56	144 00	4,413 79	*5,247 85	
Randall street, from Fellows street to Albany street, Roxbury.	Day labor	784 37	61 50	373 53	5 43	36 50	.....	1,261 33	
Redford street, from Commonwealth avenue, 160 feet south, Brighton.	Day labor	200 55	44 95	221 00	.....	6 50	.....	473 00	
Saratoga street, from 185 feet east of Austin avenue to 110 feet east, East Boston.	H. McBride, contractor	38 50	.....	4 50	.....	18 25	290 89	352 14	
Sherwood street, from Norfolk avenue to end of street, Roxbury.	J. Guarino, contractor	.....	.....	9 00	.....	.....	99 78	108 78	Built in 1908.
South Munroe terrace, from Neponset avenue to Train street, Dorchester.	Day labor	30 00	.....	4 00	17 40	.....	316 56	367 96	Built in 1908.
South Market street and Atlantic avenue, city proper.	Day labor	8,290 00	1,717 53	2,350 36	738 00	346 09	.....	*13,615 04	
Tenean creek, from Mill street, Dorchester.	Bryne Contracting Company.	1,501 75	2 25	.....	14 70	1,598 75	38,722 74	*41,840 19	
Tenean creek, private land, from Longfellow street, 90 feet north, Dorchester.	Day labor	615 72	76 50	204 51	21 95	51 00	.....	969 68	
Walley street, from Leyden street to Orient avenue, East Boston.	Kennelly & Gaddis, contractors.	.....	.....	13 10	.....	.....	173 06	186 16	Built in 1908.
Wayland street, from Hartford street, 170 feet northwest, Dorchester.	T. H. Connolly, contractor	.....	.....	.....	.....	.....	71 27	71 27	Built in 1908.
Washington street and Mora street, Dorchester.	J. T. Shea, Jr., contractor	259 00	2 25	182 44	13 50	145 00	2,793 82	*3,396 01	7 catch-basins included.
Totals	.....	\$62,171 11	\$8,198 67	\$24,634 39	\$5,176 13	\$6,202 71	\$106,154 14	\$214,232 52	

* Not complete.

Sewerage Works Loan, 1909-10, Detail.

Engineers' salaries, general, including chief inspector	\$23,138 08 •
Surveyors, weekly	10,820 77
Surveyors, monthly	1,333 00
Amount charged to construction of sewers	\$35,291 85
Total engineers' salaries	<u>\$41,494 56</u>

Engineers' Expense.

Labor	\$550 93
City teams	54 75
Hired teams	4 50
Car fares	419 91
Rubber goods	72 47
Photos	66 60
Stationery and supplies	2,298 12
Borings	589 62
Total	<u>\$4,056 90</u>

Land-takings.

J. C. Cobb <i>et al.</i> , Swett street, court execution	\$659 56
Laurence Minot and J. C. Cobb, Swett street, court execution	2,270 11
Alice F. Cahill, Stony brook, court execution	600 00
Charles F. Whittaker, Parsons and Faneuil streets, court execution	750 00
L. Bond <i>et al.</i> , Stony brook, court execution	63 55
W. A. Davidson, Greenwood street, court execution	600 00
C. H. Greenwood, Oakland branch, Stony brook, Street Commissioners' award	250 00
J. W., Joseph and A. F. Marshall, Bailey street, Dorchester, Street Commissioners' award	345 00
Roman Catholic Archbishop of Boston, Prentiss place, Street Commissioners' award	500 00
James W. Burke, Lyons and Carlos streets, Street Commissioners' award	250 00
Fred B. Bamberg, Hewlett street brook, Street Commissioners' award	563 75
Total	<u>\$6,851 97</u>

SEWERAGE WORKS LOAN.

New Catch-basins Paid for, February 1, 1909, to January 31, 1910. (Contract and Day Labor.)

District.	Built by	BUILT IN 1908.		BUILT IN 1909.			Total Expendi- ture.	Location.	Number Catch- basins Built.	Number Catch- basins Rebuilt.
		Con- tractor.	Material, etc.	DAY LABOR COST.		Total Expendi- ture.				
				Labor.	Material and Teaming.					
New catch-basins, South Boston.....	Day labor.....	.....	.....	\$59 51	\$67 70	\$127 21	Dorchester avenue.....	1		
New catch-basins, South Boston.....	Day labor.....	.....	.....	102 34	116 21	218 55	{Second street..... Third street.....	1		
New catch-basins, South Boston.....	Day labor.....	.....	.....	44 40	78 65	123 05	Granite street.....	*1		
				\$206 25	\$262 56	\$468 81		-		
			\$34 21	.....	.....	\$34 21		4		
New catch-basins, East Boston.....	Day labor.....	.....	{	\$25 67	\$17 73	43 40	East Eagle street.....	1		
New catch-basins, East Boston.....	Day labor.....	.....	.....	66 45	79 16	145 61	Chelsea street.....	1		
New catch-basins, East Boston.....	Day labor.....	.....	.....	50 59	29 90	80 49	Chelsea street.....	*1		
				\$142 71	\$126 79	\$303 71		-		
New catch-basins, Brighton.....	Day labor.....	.....	.....	\$46 65	\$12 00	\$58 65	Hobart street.....	*1		
			\$37 70	.....	.....	\$37 70		3		
New catch-basins, West Roxbury.....	Day labor.....	.....	{	\$121 00	\$96 41	217 41	Morton street.....	2		
New catch-basins, West Roxbury.....	Day labor.....	.....	.....	142 93	146 19	289 12	Centre street.....	2		
New catch-basins, West Roxbury.....	Day labor.....	.....	.....	215 54	185 30	400 84	Washington street.....	3		
				\$37 70				-		
				\$479 47	\$427 90	\$945 07		7		

" Not complete.

Sewerage Works Loan.—Concluded.

New Catch-basins Paid for, February 1, 1909, to January 1, 1910. (Contract and Day Labor.)

District.	Built by	BUILT IN 1908.		BUILT IN 1909.			Total Expendi- ture.	Location.	Number Catch- basins Built.	Number Catch- basins Rebuilt.
		Con- tractor.	Material, etc.	DAY LABOR COST.						
				Labor.	Material and Teaming.					
New catch-basins, Dorchester.....	Day labor.....	{	\$18 00	.....	.....	\$18 00	Cottage terrace.....	3		
New catch-basins, Dorchester.....	Day labor.....		\$149 32	\$207 59	356 91	Upham avenue.....	2			
New catch-basins, Dorchester.....	Day labor.....		157 02	162 52	319 54	Stonehurst street.....	1			
New catch-basins, Dorchester.....	Day labor.....		63 28	67 62	130 90	Wellesley park.....	4			
New catch-basins, Dorchester.....	Day labor.....		483 00	270 11	753 11	Clement park and Dayton street.....	3			
New catch-basins, Dorchester.....	Day labor.....			391 71	189 07	580 78	Doris street.....	1		
New catch-basins, Dorchester.....	Day labor.....			114 71	77 95	192 66	Mather street.....	1		
New catch-basins, Dorchester.....	Day labor.....			63 70	50 95	114 65	Malbourne street.....	5		
New catch-basins, Dorchester.....	Day labor.....			371 01	354 95	725 96	Rexford street.....	4		
New catch-basins, Dorchester.....	Day labor.....			288 11	261 84	549 95	Rosseter street.....	2		
New catch-basins, Dorchester.....	Day labor.....			115 60	155 76	271 36	Mather street.....	1		
New catch-basins, Dorchester.....	Day labor.....			60 08	64 13	124 21	Adams street.....	2		
New catch-basins, Dorchester.....	Day labor.....			136 28	195 82	332 10	Bowdoin street.....	1		
New catch-basins, Dorchester.....	Day labor.....			120 58	88 17	208 75				

New catch-basins, Dorchester	Day labor	.....	137 19	150 83	288 02	Corbet street	*2
New catch-basins, Dorchester	Day labor	.....	148 66	123 21	271 87	Sudan street	*3
New catch-basins, Dorchester	Day labor	.....	82 58	58 75	141 33	Dorchester avenue	*1
							—
							36
			\$18 00	\$2,479 27	\$5,380 10		
			\$259 17	.....	\$259 17		
New catch-basins, Roxbury	Day labor	.....	.....	.....	.....	Massachusetts avenue	1
			\$121 01	\$92 26	213 27		
New catch-basins, Roxbury	Day labor	.....	125 84	196 18	322 02	Alther street	2
New catch-basins, Roxbury	Day labor	.....	41 03	9 75	50 78	Holworthy street	*1
							—
							4
			\$259 17	\$298 19	\$845 24		
New catch-basins, city proper	Day labor	.....	\$37 65	\$61 24	\$98 89	Washington street	1
New catch-basins, city proper	Day labor	.....	69 83	93 79	163 62	North and Ferry streets	1
New catch-basins, city proper	Day labor	.....	65 75	22 72	88 47	North and Barrett streets	1
New catch-basins, city proper	Day labor	.....	50 23	65 87	116 10	Joy street	*1
							—
							1
			\$223 46	\$243 62	\$467 08		
			†\$89 50	.....	.....		
			\$426 91	\$151 68	\$668 09	Southampton street	*6
Totals			\$349 08	\$4,002 01	\$9,136 75		64
							1

§ Contract.

† Inspection and engineering.

† Contractor.

* Not complete.

New Catch-basins Paid for, February 1, 1909, to January 31, 1910 (Included in other Sewer Construction).

DISTRICT.	Built by	BUILT IN 1909.		BUILT IN 1909.		Total Expenditure.		Location.	Number Catch-basins Built.	Number Catch-basins Rebuilt.
		Con-tractor.	Material, etc.	DAY LABOR COST.		Total Expenditure.				
				Labor.	Material and Teaming.					
New catch-basins, South Boston.....	T. J. Young Co.	\$1,315 50	\$601 24	.....	.....	\$1,916 74	Old Colony avenue.	22		
New catch-basins, East Boston.	William J. Walsh,	785 66	300 00	.....	.....	1,085 66	Prescott and Lubec streets	12		
New catch-basins, Dorchester.	E. F. Kennelly,	287 80	117 26	.....	.....	405 06	Alpha road	5		
New catch-basins, Dorchester.	J. T. Shea, Jr.	369 40	124 96	.....	.....	494 36	Washington and Moras sts	7		
New catch-basins, Dorchester.	Day labor. . . . .	.....	.....	.....	\$300 98	\$496 64	Beaumont street.	7		
		\$2,758 36	\$1,143 46		\$300 98	\$496 64		53		

Recapitulation of New Catch-basins.		Amount Paid.
64 catch-basins built.....		\$9,136 75
1 catch-basin rebuilt.....		
53 catch-basins included in other sewer construction.....		
118		<u>\$13,836 19</u>

STREET DEPARTMENT — SEWER DIVISION.

381

LOCATION:	Built by	Number.	Labor.	Teaming.	Material.	Total.	Begun.	Finished.
Meridian street, from 12 feet north of White street, East Boston.....	Day labor....	1	\$46 25	\$10 50	\$34 65	\$91 40	April 1, 1909	April 8, 1909
Thorndike street, at Harrison avenue, city proper.....	Day labor....	1	32 58	12 00	33 66	78 24	April 2, 1909	April 8, 1909
North street, city proper.....	Day labor....	3	282 30	54 75	96 13	433 18	Mar. 30, 1909	April 26, 1909
Exchange street, city proper.....	Day labor....	2	79 53	24 00	68 87	172 40	May 20, 1909	June 5, 1909
Market street, city proper.....	Day labor....	1	58 51	7 87	37 69	104 07	June 25, 1909	June 26, 1909
Harris street, city proper.....	Day labor....	1	45 03	6 75	33 38	85 16	June 29, 1909	July 3, 1909
Plympton street and Harrison avenue, city proper.....	Day labor....	1	53 45	23 25	41 89	118 59	July 16, 1909	July 24, 1909
East street, city proper.....	Day labor....	1	39 03	19 50	34 20	92 73	July 12, 1909	July 19, 1909
Cooper street, city proper.....	Day labor....	1	19 35	9 00	27 43	55 78	Sept. 9, 1909	Sept. 10, 1909
Hollis street, city proper.....	Day labor....	1	27 98	14 25	28 67	70 90	Sept. 13, 1909	Sept. 17, 1909
A street, South Boston.....	Day labor....	1	60 83	3 00	19 50	83 33	Oct. 12, 1909	Oct. 15, 1909
Franklin street, at Devonshire street, city proper.....	Day labor....	1	41 54	12 75	31 75	*86 04	Oct. 28, 1909	Nov. 3, 1909
Ferrin street, at angle, Charlestown.....	Day labor....	1	13 50	10 50	16 80	*40 80	Nov. 9, 1909	Nov. 10, 1909
Public alley No. 425, city proper.....	Day labor....	2	77 63	.....	.....	*77 63	Nov. 29, 1909	Dec. 7, 1909
Leverett street, city proper.....	Day labor....	1	77 27	.....	.....	*77 27	Dec. 3, 1909	Dec. 14, 1909
Park street, at No. 356, Dorchester.....	Day labor....	1	43 10	18 00	44 33	*105 43	Oct. 25, 1909	Nov. 4, 1909
Totals.....	.....	.....	\$997 88	\$226 12	\$548 95	\$1,772 95	.....	.....
Paid in 1909 — manhole built in 1908.....	.....	.....	28 25	66 50	82 24	176 99	.....	.....
Totals.....	.....	.....	\$1,026 13	\$292 62	\$631 19	\$1,949 94	.....	.....

* Not complete.

Separate Systems of Drainage.
Expenditures, February 1, 1909, to January 31, 1910.

ACCOUNTS.	Labor.	Teaming.	Materials.	Hired and Department Machinery.	Contracts.	Miscellaneous.	Total.
Engineers' salaries.....	\$28,723 42	.....	.....	.....	.....	.....	\$28,723 42
Engineers' expense.....	1,353 53	\$18 75	.....	.....	.....	\$2,509 27	3,881 55
Sundries.....	20 10	57 85	\$657 22	.....	\$36 29	256 48	1,027 94
New catch-basins, Brighton.....	191 70	36 00	185 13	.....	640 00	.....	1,052 83
New catch-basins, West Roxbury.....	1,346 79	177 00	692 67	.....	.....	10 86	2,227 32
New catch-basins, Dorchester.....	1,124 88	93 00	450 27	.....	.....	13 89	1,682 04
New catch-basins, Roxbury.....	244 79	24 75	186 67	.....	.....	47	456 68
New catch-basins, city proper.....	120 77	30 00	133 16	.....	.....	.....	283 93
Sewers built in entire city.....	189,693 90	16,754 84	60,537 32	\$10,676 06	256,518 09	8,646 65	542,826 86
Totals.....	\$222,819 88	\$17,192 19	\$62,842 44	\$10,676 06	\$257,194 38	\$11,437 62	\$582,162 57

Separate Systems of Drainage.

Sewers and Surface Drains Built by the City, February 1, 1909, to January 31, 1910.

Location.	Built by	Labor.	Teaming.	Materials.	Hired and Department Machinery.	Miscellaneous.	Engineering.	Contracts.	Total.	Remarks.
Aldrich street, from Beech street to Belgrade avenue, West Roxbury.	Day labor	\$2,160 29	\$237 00	\$1,022 04	.....	\$83 13	\$72 00	.....	*\$3,574 46	6 catch-basins included.
Anawan avenue, from Beech street to Stratford avenue, West Roxbury.	J. Guarino, contract..	267 25	1 50	44 08	.....	13 80	76 84	\$1,801 57	2,205 04	
Asylum road, from 60 feet south of Canterbury street, West Roxbury.	Coughlan & Shells Co.	270 00	.....	.....	.....	103 82	300 00	1,883 38	2,557 20	
82 Auburn and Washington streets, West 83 Roxbury.	Day labor	1,534 52	115 00	361 73	\$26 25	5 10	106 63	.....	2,149 23	
Audubon road, from Ivy street to Mountfort street, city proper.	Day labor	1,107 50	85 00	373 53	.....	.....	153 00	.....	1,719 03	
Bradstreet avenue, from Mt. Hope street to 435 feet southwest, West Roxbury.	A. Cefalo	56 00	.....	19 64	.....	12 75	11 75	516 23	616 37	
Brookline avenue, from Audubon road to Fenway, Roxbury.	A. M. Cusack	243 50	.....	.....	.....	90 22	422 00	3,975 45	*4,731 17	
Brookdale road, from Parsons street to 653 feet west, Brighton.	Day labor	1,727 81	120 00	298 47	.....	32 23	28 50	.....	2,207 01	
Canterbury branch Stony brook, from 630 feet south of Neponset avenue to Harvard street, West Roxbury.	Day labor	5,271 56	837 70	1,597 73	1,339 77	315 88	161 00	.....	†9,523 64	
Carried forward .....	.....	\$12,638 43	\$1,396 20	\$3,717 22	\$1,366 02	\$656 93	\$1,331 72	\$8,176 63	\$29,283 15	

* Not complete.

† Begun in 1908.

Separate Systems of Drainage. — Continued.

LOCATION.	Built by	Labor.	Teaming.	Materials.	Hired and Department Machinery.	Miscellaneous.	Engineering.	Contracts.	Total.	Remarks.
<i>Brought forward.</i>						\$656 93	\$1,331 72	\$8,176 63	\$29,283 15	
Canterbury street, Gilman street and Sutton street, West Roxbury.	Day labor	4,281 55	310 70	840 52		5 40	75 13		5,513 30	
Canterbury street, from Gilman street to 400 feet northeast of Mt. Hope street, West Roxbury.	Day labor	3,762 10	364 60	798 85	424 50	2 65	70 65		*5,423 35	
Canterbury branch Stony brook, from Canterbury street to Asylum road, West Roxbury.	Coughlan & Sheils Co.	100 00				51 00	340 50	3,227 57	3,719 07	
Clifford street, from 675 feet south of Canterbury street to 465 feet south, West Roxbury.	Day labor	1,356 73	75 00	277 82			30 62		1,740 17	
Clifford street, from 280 feet south of Canterbury street to Canterbury street, West Roxbury.	Day labor	582 25	24 00						606 25	
Dighton street, from Chestnut Hill avenue to 300 feet west, Brighton.	A. Cefalo	56 00	1 50			78 01	35 00	646 00	*816 51	
Elmira street, from Market street to Murdock street, Brighton.	Day labor	2,388 19	136 25	690 21	166 67	36 01	64 31		3,481 64	
Elmo street, from Greenwood street to Erie street, Dorchester.	D. E. Lynch	77 00		20 84		25 35	27 00	323 85	*474 04	
Evergreen street, from South Hunting-ton avenue to 445 feet east, Roxbury.	Day labor	3,252 85	270 00	695 64	200 00	42 95	114 62		4,576 06	
Edgar street, from Mechanic street to Parker street, Roxbury.	Day labor	301 84	27 00				16 00		*344 84	

Faneuil Valley brook, in Rogers Park, Brighton.	Day labor	3,711 71	355 50	1,533 61	190 00	215 31	82 00	.....	6,088 13
Faxon street, from Kilton street to Washington street, Dorchester.	Day labor	10,235 40	1,014 15	3,791 69	535 16	161 67	398 00	.....	*16,136 07
Farquhar street, from South street to Centre street, West Roxbury.	A. Cefalo	135 00	7 50	235 46	.....	106 85	140 00	5,841 54	8 catch-basins included.
Fenway, from Brookline avenue to Avenue Louis Pasteur, Roxbury.	A. M. Cusack	317 50	.....	.....	.....	125 54	135 00	10,192 29	*10,770 33
Fenway, from Avenue Louis Pasteur to Worthington street, Roxbury.	Day labor	4,848 46	513 00	2,615 53	360 00	4 75	168 00	515 67	*9,025 41
Fletcher street, from South street to Centre street, West Roxbury.	Day labor	3,206 31	217 50	1,387 73	.....	5 55	66 75	.....	4,883 84
Folsom street, from Neponset avenue to Florence street, West Roxbury.	A. Cefalo	14 00	.....	19 64	.....	12 75	3 50	263 86	313 75
Fowler street, from Greenwood street to 113 feet west, Dorchester.	Day labor	258 63	15 00	.....	.....	.....	37 00	.....	*310 63
Greenwood street, from Harvard street to Elmo street, Dorchester.	Day labor	3,051 92	179 35	1,223 60	.....	46 33	235 00	.....	*4,736 20
Graw avenue, from Poplar street to Hyde Park line, West Roxbury.	A. Cefalo	415 00	3 00	50 39	.....	99 74	210 00	8,313 37	*9,091 50
Guernsey street, south to N. Y., N. H. & H. R. R., West Roxbury.	A. Cefalo	31 50	3 00	36 30	.....	14 70	15 28	604 70	705 48
Hampshire street, from Ruggles street to Linden Park street, Roxbury.	Day labor	1,834 68	189 75	719 53	.....	4 63	73 00	.....	2,821 59
Hewlett street brook, Roslindale Play- ground, West Roxbury.	Day labor	4,942 02	270 00	1,993 71	.....	14 53	146 00	.....	*7,366 26
Hewlett street brook, from Farquhar street to Centre street, West Roxbury.	Day labor	4,924 76	187 50	387 69	.....	.....	83 00	.....	*5,582 55
Carried forward .....	.....	\$69,723 83	\$5,560 50	\$21,035 98	\$3,242 35	\$1,710 65	\$3,838 08	\$38,105 48	\$140,276 87

* Not complete.

Separate Systems of Drainage.—Continued.

LOCATION.	Built by	Labor.	Teaming.	Materials.	Hired and Depart- ment Ma- chinery.	Miscel- laneous.	Engineer- ing.	Contracts.	Total.	Remarks.
<i>Brought forward</i>.....	.....	\$66,723 83	\$5,560 50	\$21,035 98	\$3,242 35	\$1,710 65	\$3,898 08	\$38,105 48	\$140,276 87	
Huntington avenue, from Canterbury street to Hyde Park line, West Roxbury.	A. Cefalo.....	243 25	3 00	63 12	.....	14 70	98 34	3,765 06	4,187 47	
Hyde Park avenue, from Hadwin way to Hyde Park line, West Roxbury.	West Roxbury Trap Rock Company.	667 00	3 00	.....	.....	.....	408 00	6,819 97	*7,897 97	
Jamaicaway, from Huntington avenue 1,520 feet south, Roxbury.	Day labor.....	2,331 49	186 75	1,014 38	.....	6 61	233 25	.....	3,772 48	
Keyes street, from Meehan street to Washington street, West Roxbury.	Day labor.....	1,056 60	121 50	128 41	.....	.....	15 00	.....	*1,321 51	
Keyes street and Stedman street, West Roxbury.	Coughlin & Sheils Company.	31 25	.....	39 88	.....	.....	57 75	619 12	748 00	
Kilton street, from Harvard street to Faxon street, Dorchester.	Day labor.....	15,395 02	900 75	2,767 10	436 00	360 90	580 00	.....	*20,439 77	
Kingsbury street, from Galena street to Kensington street, Roxbury.	Day labor.....	244 59	42 75	.....	.....	.....	32 00	.....	*319 34	
Lamont street, from Vernon street to Linden Park street, Roxbury.	Day labor.....	1,033 85	156 75	765 91	.....	13 96	38 00	.....	2,008 47	
Lamont street, from 60 feet north of Linden avenue to Linden Park street, Roxbury.	Day labor.....	627 48	65 25	136 11	.....	.....	.....	.....	828 84	
Lauriat avenue, from Willowwood street to Mountain avenue, Dorchester.	Day labor.....	491 76	22 50	76 63	.....	.....	.....	.....	590 89	
Linden Park street, from Cabot street to Tremont street, Roxbury.	Day labor.....	1,543 92	148 50	646 85	.....	14 72	78 75	.....	2,432 74	4 new catch-basins included.

Marbury terrace, from Amory street to Stony brook.	J. Guarino.....	45 50	1 50	80 62	.....	9 00	406 82	543 44	2 new catch-basins included.
Market street and Chestnut Hill avenue, Brighton.	Day labor.....	288 68	.....	.....	.....	15 00	.....	*303 68	
Maybrook street, from Greenwood street to Glenway street, Dorchester.	A. Cefalo.....	49 00	.....	74 40	.....	44 95	379 03	607 38	2 new catch-basins included.
Mechanic street, from Ruggles street to Edgar street, Roxbury.	Day labor.....	393 85	35 25	361 22	.....	17 00	.....	*807 32	2 new catch-basins included.
Mendum street, from Walker street to Fairview street, West Roxbury.	W. L. Dolan.....	136 50	34 65	282 87	.....	221 40	1,650 64	†2,364 06	7 new catch-basins included.
Metropolitan avenue, from Washington street to Kiltredge street, West Roxbury.	A. Cefalo.....	116 00	.....	37 80	.....	15 00	1,118 67	1,333 26	
Merlin street, from Centre street to Montclair avenue, West Roxbury.	Day labor.....	2,250 69	157 00	177 91	207 50	.....	.....	2,827 49	
83 Morton street, from 340 feet northwest of Harvard street to Wellington Hill street, Dorchester.	E. F. Kennelly.....	392 37	5 25	67 20	.....	15 30	4,485 39	5,285 26	
Mt. Hope street, from Canterbury street to Mt. Hope Cemetery, West Roxbury.	Day labor.....	1,445 25	73 50	.....	.....	.....	.....	*1,536 75	
Newbern street, from Canterbury street to Richards avenue, West Roxbury.	A. Cefalo.....	133 00	.....	61 92	.....	11 15	2,859 92	3,110 99	
Old Stony brook channel, part of Section 3, Roxbury.	Day labor.....	28 28	392 05	1,479 25	85 07	1 20	.....	†1,985 85	
Old Stony brook channel, from Vernon street to Linden Park street, Roxbury.	Day labor.....	4,014 35	1,177 38	3,594 17	788 00	100 72	.....	†9,904 62	
Old Stony brook channel, part of Section 3 and 4, Roxbury.	P. W. Hill.....	.....	.....	.....	.....	352 89	8,118 20	†8,621 09	
Carried forward.....	.....	\$99,683 51	\$9,037 83	\$32,891 73	\$4,758 92	\$2,884 15	\$6,421 10	\$68,328 30	\$224,055 54

* Not complete.

† Begun in 1903.

Separate Systems of Drainage.—Continued.

LOCATION.	Built by	Labor.	Teaming.	Materials.	Hired and Department Machinery.	Miscellaneous.	Engineering.	Contracts.	Total.	Remarks.
<i>Brought forward.</i>										
Old Stony brook channel, part of Section 4, Roxbury.	W. J. Barry.	\$99,683 51	\$9,087 83	\$32,891 73	\$4,758 92	\$2,884 15	\$6,421 10	\$68,328 30	\$224,055 54	
Old Stony brook channel, Section 5, Roxbury.	T. J. Young Company.	596 63		19 86		1,027 07	795 00	19,020 75	*21,459 31	
Old Stony brook channel, miscellaneous, Roxbury.		482 25		442 17		986 23	601 00	15,910 27	*18,421 92	
Opera place, Roxbury.	Day labor.	515 93	147 75			1,881 93			2,545 61	5 catch-basins included.
Avenue Louis Pasteur, Roxbury.	Day labor.	269 76	53 25	442 40			38 00		803 41	10 catch-basins.
Avenue Louis Pasteur, catch-basins.	J. J. O'Brien.	18,554 21	1,936 05	11,077 97	2,752 33	79 68	900 00	3,199 30	*38,499 54	
Poplar street, Metropolitan avenue, Cornell street, etc., West Roxbury.	T. A. Nolan.	59 50	3 00	162 80		55 70	47 00	713 84	1,041 84	
Perkins street, from Canterbury street to Grew avenue, West Roxbury.	DeMarco & Cartullo.	561 43	28 50	168 42		8 14	440 00	4,975 90	*6,182 39	
Private land, from Greenwood street to Kilton street, Dorchester.	Day labor.	835 91		6 60				108 34	*114 94	
Private land and Prentiss place, from Lamont street to Linden Park street, Roxbury.	Day labor.	641 78	81 75	296 54		4 54	65 00		†900 91	
Private land and Kingsdale street, from Talbot avenue to 600 feet easterly, Dorchester.	E. F. Kennelly.	282 00	1 50			81 41	187 00	3,221 84	†3,773 75	5 catch-basins included.

Private land, from Harvard avenue to Princeton avenue, Brighton.	Day labor.....	2,510 96	143 25	39 00	1 90	64 00	.....	†2,759 11
Radcliffe street, from Harvard street to 580 feet north, Dorchester.	Day labor.....	1,416 83	72 75	465 17	20 29	124 00	.....	2,099 04
Radcliffe street, from Faxon street to 468 feet south, Dorchester.	Day labor.....	1,094 70	83 25	329 60	20 62	27 50	.....	1,555 67
Radcliffe street and Carmen street, Dorchester.	Fallon & Maffie.....	182 00	2 25	160 92	53 98	132 00	1,733 00	†2,264 15
Rosindale branch Stony brook, from 150 feet northeast, Ashland street to Poplar street, West Roxbury.	Day labor.....	8,158 20	1,406 75	3,439 22	73 39	100 00	.....	*14,216 76
Rosindale branch Stony brook, from 150 feet northeast, Ashland street to Lindall street, West Roxbury.	Day labor.....	3,817 20	267 50	1,006 98	4 25	21 73	.....	5,480 16
Ruggles street, from Cabot street to Tremont street, Roxbury.	Day labor.....	569 90	93 75	343 77	27 70	42 00	.....	1,077 12
88 Salt Creek brook, Brighton, in private land from Ashford street to B. & A. R. R.	Day labor.....	5,437 42	466 40	1,370 53	135 75	123 00	.....	†8,160 88
Shepard brook, Brighton.....	Day labor.....	6,098 58	996 46	2,548 88	349 15	214 65	.....	*11,207 72
Shafter street, from Faxon street to Waterlow street, Dorchester.	A. DeMarco Company,	45 50	.....	48 50	13 00	102 00	624 22	833 22
Shawmut avenue, from Ruggles street to Sterling street, Roxbury.	Day labor.....	404 96	51 00	.....	.....	107 00	.....	†562 96
Simmons street, from Vernon street to Linden Park street, Roxbury.	M. H. Lynch.....	133 00	4 50	75 28	13 25	130 00	2,163 76	2,519 79
Smith street, from Harvard street to 325 feet east, Brighton.	A. Cefalo.....	56 00	.....	.....	75 81	40 00	391 08	†562 89
Sou'h street, from Farquhar street to Centre street, West Roxbury.	W. L. Dolan.....	360 00	5 00	563 08	84 26	163 50	8,597 75	†9,773 59
Carried forward.....	.....	\$152,708 16	\$14,932 49	\$55,860 42	\$7,882 20	\$10,925 40	\$128,988 35	\$381,936 83

† Not complete.

* Begun in 1908.

12 new catch-basins included.

Separate Systems of Drainage.—Continued.

LOCATION.	Built by	Labor.	Teaming.	Materials.	Hired and Department Machinery.	Miscellaneous.	Engineering.	Contracts.	Total.	Remarks.
<i>Brought forward</i>.....	.....	\$152,768 16	\$14,332 49	\$55,860 42	\$10,579 73	\$7,882 20	\$10,925 48	\$128,988 35	\$381,936 83	
Spring street, from Etna street to George street, Brighton.	Day labor.....	400 60	30 00	138 93	.....	.....	15 00	.....	584 53	
Standish street, from Greenwood street to Harvard street, Dorchester.	D. F. O'Connell Company.	525 00	3 75	.....	.....	115 92	502 00	9,726 29	*10,872 96	
Stony brook conduit, Section 5, West Roxbury.	Coughlan & Sheils Company.	1,706 25	4 50	66 21	.....	4 62	1,891 00	62,335 78	†66,008 36	6 new catch-basins included.
Stony brook conduit, Section 6, West Roxbury.	W. J. Barry.....	362 74	.....	.....	.....	15 90	877 00	14,417 39	*15,673 03	
Stony brook conduit, miscellaneous, West Roxbury.	.....	476 80	133 50	247 91	.....	43 82	.....	.....	902 03	
Strathmore road, from Orkney road to Englewood avenue, Brighton.	Day labor.....	310 86	35 25	106 53	.....	1 50	42 00	.....	*496 14	
Talbot avenue, high level, from Helen street to Bernard street, Dorchester.	Day labor.....	100 13	549 30	953 52	78 33	23 94	.....	.....	†1,705 22	Includes Franklin Field back filling.
Talbot avenue, from Bernard street to Whitfield street, Dorchester.	Day labor.....	2,926 99	230 75	823 15	.....	16 29	286 50	.....	4,283 68	
Talbot avenue, from Bernard street to Wescott street, Dorchester.	Day labor.....	663 74	25 50	68 88	.....	3 74	50 00	.....	811 86	
Talbot avenue, from Wescott street, to West Park street and Standish street, Dorchester.	G. M. Bryne Company.	467 13	.....	165 30	.....	115 77	661 00	16,531 29	*17,940 49	1 new catch-basin included.
Talbot avenue, from Helen street to Blue Hill avenue, Dorchester.	McCarthy & Walsh.	520 00	10 25	.....	.....	93 25	518 00	11,694 63	*12,836 13	
Vemon street, from Downing street to Tremont street, Roxbury.	Day labor.....	1,163 36	117 75	713 74	.....	27 21	60 00	.....	2,082 06	

Walworth street, from South street to New York, New Haven & Hartford Railroad, West Roxbury.	A. Cefalo.....	57 75	6 00	19 64	11 99	28 69	618 57	742 64	
Washington street, from Denton terrace to Metropolitan avenue, West Roxbury.	Day labor.....	834 14	42 00	108 90		15 00		1,000 04	
Washington street, from Williams street to Green street, West Roxbury.	T. J. Young Company,	520 00			84 79	238 00	5,889 50	*6,732 29	13 new catch-basins included.
Washington street, from Williams street to Arborway, West Roxbury.	E. F. Kennelly.....	183 50	7 50		13 80	130 00	1,058 56	*1,393 36	
Washington street, across 400 feet north-east of Arborway, West Roxbury.	Day labor.....	2,338 03	217 50	504 74	50	64 00		*3,124 77	
Washington street, from Keyes street to 531 feet south, West Roxbury.	Day labor.....	1,303 68	51 00			45 00		*1,399 68	
Washington street, from Keyes street to Williams street, West Roxbury.	Day labor.....	1,568 24	121 50	18 00		15 00		*1,722 74	
Wentworth street, from Norfolk street to Dunbar avenue, Dorchester.	J. Guarino.....	143 50		131 28	72 73	40 00	744 60	*1,132 11	5 new catch-basins included.
West street, from Orange street to Bellevue avenue, West Roxbury.	A. Cefalo.....						77 85	177 85	
Whitfield street, from Southern avenue to Norfolk street, Dorchester.	Day labor.....	1,533 74	78 05	328 45	22 40	108 50		2,071 14	
Whitman street, from Norfolk street to Dunbar avenue, Dorchester.	Di Pietro & Caruso,	150 50			80 38	37 00		*267 88	3 new catch-basins included.
Whittier street, from Downing street to Cabot street, Roxbury.	Day labor.....	707 78	81 75	135 18		68 00		992 71	
Williams street, Keyes street, Plainfield street and Meehan street, West Roxbury.	W. L. Dolan.....	98 00		164 54	15 90	129 00	4,435 28	4,842 72	
Worthington street, from Board of Survey street No. 217 to Longwood avenue, Roxbury.	Day labor.....	1,059 11	76 50			58 00		*1,193 61	
Total.....		\$172,889 73	\$16,754 84	\$60,537 32	\$8,646 65	\$16,804 17	\$256,518 09	\$542,826 86	

* Not complete.

† Begun in 1908.

Separate Systems of Drainage Loan, 1909-10. Detail Engineering Account.

Engineers' salaries, general	\$28,723 42
Amount charged to construction of sewers	16,804 17
Total engineers' salaries	<u>\$45,527 59</u>

ENGINEERS' EXPENSE.

Labor	\$1,353 53
Teaming	18 75
Photos	32 00
Rent	125 00
Coal	12 20
Light	4 00
Car fares	618 16
Brush	1 50
Towels	20 60
Boots	17 47
Hardware	5 48
Cleaning office (Stony brook)	36 00
Prints	160 14
Borings	1,200 90
Wood	3 25
Lumber	134 90
Gas	15 17
Supplies	29 86
Printing	92 64
Total	<u>\$3,881 55</u>

SEPARATE SYSTEMS OF DRAINAGE LOAN.

New Catch-basins Paid for, February 1, 1909, to January 31, 1910. (Contract and Day Labor.)

DISTRICT.	Built by	Inspection.	CONTRACTS.		DAY LABOR.		Total Expenditure.	Location.	Number Catch-basins Built.
			Contractor.	Material and Teaming.	Labor.	Materials and Teaming.			
New catch-basins, Brighton.....	M. F. Gaddis.....	\$133 00	\$640 00	\$149 24			\$922 24	Faneuil st.....	1
New catch-basins, Brighton.....	Day labor.....				\$58 70	\$71 89	130 59	Monten ave.....	1
							\$1,052 83	Newcastle rd.....	6
								Colliston rd.....	1
New catch-basins, West Roxbury.....	Day labor.....				\$459 01	\$196 44	\$655 45	Canterbury st.....	2
New catch-basins, West Roxbury.....	Day labor.....				401 43	189 05	590 48	Walk Hill st.....	2
New catch-basins, West Roxbury.....	Day labor.....				33 59	35 86	68 95	Poplar st.....	1
New catch-basins, West Roxbury.....	Day labor.....				39 93	42 57	82 50	Walworth st.....	1
New catch-basins, West Roxbury.....	Day labor.....				260 35	384 11	644 46	Colberg ave.....	6
New catch-basins, West Roxbury.....	Day labor.....				152 48	33 00	185 48	Meehan st.....	*2
					\$1,346 79	\$880 53	\$2,227 32		14
New catch-basins, Dorchester.....	Day labor.....				\$1,038 93	\$509 71	\$1,548 64	Mountain ave.....	6
New catch-basins, Dorchester.....	Day labor.....				85 95	47 45	133 40	Ballou ave.....	1
							\$1,682 04	Lauriat ave.....	*1
					\$1,124 88	\$557 16		Elmo st.....	9
New catch-basins, Roxbury.....	Day labor.....				\$45 57	\$76 37	\$121 94	Benton st.....	1
New catch-basins, Roxbury.....	Day labor.....				69 60	56 68	126 28	Evergreen st.....	1
New catch-basins, Roxbury.....	Day labor.....				129 62	78 84	208 46	Downing st.....	2
					\$244 79	\$211 89	\$456 68		4
New catch-basins, City Proper.....	Day labor.....				\$52 02	\$96 83	\$148 85	Falmouth st.....	1
New catch-basins, City Proper.....	Day labor.....				68 75	66 33	135 08	St. Paul st.....	1
					\$120 77	\$163 16	\$283 93		2
		\$133 00	\$640 00	\$149 24	\$2,895 93	\$1,884 63	\$5,702 80		38

* Not complete.

New Catch-basins Paid for, February 1, 1909, to January 31, 1910. (Included in Other Sewer Construction.)

District.	Built by	Inspection.	CONTRACTS.		DAY LABOR.		Total Expenditures.	Location.	Number Catch-basins Built.
			Contractor.	Material and Teaming.	Labor.	Materials and Teaming.			
New catch-basins, West Roxbury..	William L. Dolan.....	.....	\$437 50	\$225 50	.....	.....	\$663 00	Mendum st.	7
New catch-basins, West Roxbury..	Coughlan & Sheils Company.	.....	281 33	69 00	.....	.....	350 33	Stony brook, Section 5....	6
New catch-basins, West Roxbury..	William L. Dolan.....	.....	788 69	411 28	.....	.....	1,199 97	South st.	12
New catch-basins, West Roxbury..	A. Cefalo.....	.....	549 00	128 24	.....	.....	677 24	Farquhar st.	8
New catch-basins, West Roxbury..	E. F. Kennelly.....	.....	870 85	309 74	.....	.....	1,180 59	Washington st.	13
New catch-basins, West Roxbury..	Day labor.....	.....	.....	.....	\$360 48	\$371 32	731 80	Fletcher st.	7
New catch-basins, West Roxbury..	Day labor.....	.....	.....	.....	155 85	319 08	474 93	Aldrich st.	6
New catch-basins, West Roxbury..	.....	.....	\$2,927 37	\$1,143 76	\$516 33	\$690 40	\$5,277 86	.....	59
New catch-basins, Dorchester.....	A. Cefalo.....	.....	\$93 00	\$56 56	.....	.....	\$149 56	Maybrook st. ...	2
New catch-basins, Dorchester.....	Fallon & Maffie.....	.....	157 41	75 84	.....	.....	233 25	Radcliffe and Carmen sts..	3
New catch-basins, Dorchester.....	E. F. Kennelly.....	.....	330 50	.....	.....	.....	330 50	Kingsdale st. ...	*3
New catch-basins, Dorchester.....	G. M. Byrne Company.,	.....	105 00	24 28	.....	.....	129 28	Talbot ave.	1
New catch-basins, Dorchester.....	J. Guarino.....	.....	295 00	91 40	.....	.....	386 40	Wentworth st. ..	5
New catch-basins, Dorchester.....	Di Pietro & Caruso.....	.....	216 10	.....	.....	.....	216 10	Whitman st.	*3

New catch-basins, Dorchester.....	Day labor.....					\$117 20	\$113 20	230 40	Radcliffe st.....	2
New catch-basins, Dorchester.....	Day labor.....					119 70	110 29	229 99	Radcliffe st.....	2
New catch-basins, Roxbury.....	J. J. O'Brien.....	\$59 50	\$1,197 01	\$248 08		\$236 90	\$223 49	\$1,905 48	Avenue Pasteur,	21
New catch-basins, Roxbury.....	J. Guarino.....		\$713 84	\$268 50				\$1,041 84	Marbury ter.....	10
New catch-basins, Roxbury.....	Day labor.....		89 00	50 56				139 56	Hampshire st...	2
New catch-basins, Roxbury.....	Day labor.....					\$85 00	\$81 43	166 43	Linden Park st.,	4
New catch-basins, Roxbury.....	Day labor.....					134 80	142 11	276 91	Mechanic st.....	2
New catch-basins, Roxbury.....	Day labor.....					127 40	124 98	252 38	Opera pl.....	5
New catch-basins, Roxbury.....	Day labor.....					101 00	324 38	425 38		
		\$59 50	\$802 84	\$319 06		\$448 20	\$672 90	\$2,302 50		25
		\$59 50	\$4,927 22	\$1,710 90		\$1,201 43	\$1,586 79	\$9,485 84		105

* Not complete.

RECAPITULATION.

38 catch-basins.....	Amount Paid.
105 catch-basins, included in other sewer construction.....	\$5,702 80
	9,485 84
	<u>\$15,188 64</u>

Catch-basins Built, 1909=10.

DISTRICTS.	Contract.	Day Labor.	REBUILT.	
			Contract.	Day Labor
City Proper.....		5		1
Roxbury.....	18	*23		†1
Dorchester.....	29	57		
West Roxbury.....	46	‡35		
Brighton.....	8	2		
Charlestown.....				
East Boston.....	12	3		\$1
South Boston.....	22	4		
	135	129		3

Total catch-basins built, 267.

* Two paid by Art Museum.

† One paid by Edison Company.

‡ One paid by Boston Elevated Railway Company.

§ One paid by East Boston Gas Company.

ENTRANCE FEES, PERMITS AND ASSESSMENTS.

Entrance fees to the amount of \$4,152.06 have been deposited with the City Collector, for collection from estates upon which no sewer assessment was ever paid, in accordance with the Ordinances of 1908, chapter 3, section 11.

Bills for sewer assessments amounting to \$750.74 have been deposited for collection, representing those estates assessed under chapter 456 of the Acts of 1889, and amendments thereto, which have been connected during the year with the sewers for which they were assessed.

Two thousand six hundred forty-nine permits have been issued, viz.: Five hundred ninety-six to district foremen, 119 to contractors and 1,934 to licensed drain-layers, representing 2,660 openings for repairing or laying house drains. The work done under these permits has been inspected and a record of the same made on the plans of

this division, in accordance with the provisions of the Ordinances of 1908, chapter 3. •

Plans for the assessment of estates for sewer construction have been furnished the Street Commissioners, representing 62,367.98 feet of sewers and appurtenances, costing \$991,849.12.

RATES PAID FOR HIRED MACHINERY.

Cableway	\$200 00 per month.
Bull wheel derrick and engine	150 00 per month.
Pumping engine	3 00 per day.
Carson trench machine, complete	170 00 per month.
Carson trench machine, without engine	125 00 per month.

Cost of Maintaining all Horses in the Sewer Division, February 1, 1909, to January 31, 1910.

ITEMS.	Total Cost.	43.3 Horses, Average Cost per Day.
Labor.....	\$13,192 91	\$0 834
Hay and grain.....	7,026 07	44
Shoeing.....	1,548 07	10
Veterinary services and medicine.....	446 32	03
Stable goods.....	116 90	007
Totals.....	\$22,330 27	\$1 41

Sewer Contracts Awarded, 1909-10.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Lyndeboro' street, between Middlesex and Essex streets, Charlestown.	John Guarino * (11 bidders.)	Feb. 5, 1909.	25 cubic yards earth excavation, below grade, at \$1 cubic yard. 5 cubic yards extra earth excavation at 75c. cubic yard. 5 cubic yards rock excavation at \$4.50 cubic yard. 2,000 feet, board measure, spruce sheeting at \$18 M. feet. 0.5 feet, board measure, spruce for platforms, etc., at 1c. foot. 2 cubic yards concrete at \$5 cubic yard. 322 linear feet 12-inch pipe sewer at \$1.35 linear foot. 6 linear feet 10-inch pipe for catch-basin drain at \$1 linear foot. 150 linear feet old sewer removed at 15c. linear foot. 70 linear feet old house drain rebuilt at 30c. linear foot. 10 linear feet, other than house and catch-basin drains, rebuilt at 25c. linear foot. 2 manholes at \$45 each. 30 cubic yards gravel and sand refill at 1c. cubic yard. 1 catch-basin trap taken out and rebuilt at \$2. 1 invert built in old manhole at \$5. 50 linear feet 6-inch pipe underdrain at 1c. linear foot.	\$876 24	\$1,003 55
Morton street, from 340 feet west of Harvard street to Wellington Hill street, West Roxbury and Dorchester.	E. F. Kennelly * (17 bidders.)	March 27, 1909.	10 cubic yards earth excavation, below grade, at \$1 cubic yard. 10 cubic yards extra earth excavation at 75c. cubic yard. 150 cubic yards rock excavation at \$4 cubic yard. 1,000 feet, board measure, spruce sheeting at \$20 M. feet.	4,485 39	3,276 90

Old Colony avenue, from Dorchester street to Dorchester avenue, South Boston.	Thomas J. Young Company *. (12 bidders.)	March 19, 1909.	1,000 feet, board measure, spruce for platforms, etc., at \$20 M. feet. 30 cubic yards concrete at \$5 cubic yard. 378 linear feet 15-inch pipe sewer at \$1.35 linear foot. 867 linear feet 12-inch pipe sewer at \$1.37 linear foot. 20 linear feet 6-inch pipe chimney at 20c. linear foot. old drain rebuilt at \$1 linear foot. 6 manholes at \$40 each. 10 cubic yards gravel and sand refill at 50c. cubic yard. 1,244 linear feet 6-inch pipe underdrain at 17c. linear foot.	10 cubic yards earth excavation, below grade, at \$1.50 cubic yard. 10 cubic yards extra earth excavation at \$1 cubic yard. 5 cubic yards rock excavation at \$3 cubic yard. 1,800 linear feet spruce piles at 15c. linear foot. 3,000 feet, board measure, spruce sheeting at \$21 M. feet. 1,000 feet, board measure, spruce platforms, etc., at \$35 M. feet. 55 cubic yards concrete at \$5.75 cubic yard. 2,061 linear feet 15-inch pipe sewer at \$1.35 linear foot. 2,590 linear feet 12-inch pipe sewer at \$1.25 linear foot. 100 linear feet 10-inch pipe catch-basin drain at 65c. linear foot. 6 15-inch or 10-inch slants placed in brick sewer at \$2 each. 28 manholes at \$40 each. 22 catch-basins at \$53 each. 2 cubic yards brick masonry at \$12.50 cubic yard. 20 cubic yards gravel or sand refill at \$1 cubic yard. 4,651 linear feet 6-inch pipe underdrain at 20c. linear foot. 25 cubic yards of old concrete or stone wall removed at \$5 cubic yard.	10,172 00 Including extra work amounting to \$114.14.	12,476 50
--	---	------------------------	--	--	--	------------------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Metropolitan avenue, between Washington and Kittredge streets, West Roxbury.	Antony Cefalo * (10 bidders.)	April 5, 1909.	5 cubic yards earth excavation, below grade, at \$1.25 cubic yard. 5 cubic yards extra earth excavation at 75c. cubic yard. 25 cubic yards rock excavation at \$4.50 cubic yard. 3,000 feet, board measure, spruce sheeting at \$22 M. feet. 2 cubic yards concrete at \$5 cubic yard. 675 linear feet 10-inch pipe sewer at \$1.24 linear foot. 30 linear feet 6-inch pipe chimney at 25c. linear foot. 3 manholes at \$50 each. 5 cubic yards gravel and sand refill at 25c. cubic yard. 50 linear feet 6-inch pipe underdrain at 25c. linear foot. 1 manhole invert rebuilt at \$2.	\$1,118 67	\$1,253 10
Prescott street, between Frankfort street and B., R. B. & L. R. R. and outlet in Lubec street, East Boston.	William J. Walsh * (7 bidders.)	May 4, 1909.	330 linear feet earth excavation for 5-foot 6-inch concrete surface drain at \$2.50 linear foot. 163 linear feet earth excavation for 5-foot 3-inch concrete surface drain at \$2.81 linear foot. 258 linear feet earth excavation for 2-foot 9-inch concrete surface drain at \$1.77 linear foot. 248 linear feet earth excavation for 2-foot 6-inch concrete surface drain at \$1.50 linear foot. 244 linear feet earth excavation for 2-foot concrete and channel pipe surface drain at \$1.28 linear foot. 25 cubic yards, more or less, earth excavation, below grade, at \$1.25 cubic yard.	14,603 37 Including extra work amounting to \$69.64.	12,559 65

25 cubic yards, more or less, extra earth excavation at 75c. cubic yard.
 10 cubic yards, more or less, rock excavation at \$4.50 cubic yard.
 9,000 linear feet, more or less, spruce piles, furnished and driven, at 15c. linear foot.
 17,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet.
 1,000 feet, board measure, more or less, spruce for platforms at \$50 M. feet.
 400 linear feet, more or less, 6-inch pipe under-drain at 25c. linear foot.
 260 linear feet, more or less, 8-inch pipe under-drain at 25c. linear foot.
 25 cubic yards, more or less, gravel or sand refill at \$1.50 cubic yard.
 40 cubic yards, more or less, screenings for bottom of trench, before placing concrete, at \$1.35 cubic yard.
 160 linear feet, more or less, 6-inch pipe house drain at 75c. linear foot.
 210 linear feet, more or less, 6-inch cast-iron pipe house drains at 75c. linear foot.
 12 linear feet, more or less, 12-inch pipe for lateral sewers at \$1 linear foot.
 12 linear feet, more or less, 12-inch cast-iron pipe for lateral sewers at \$1.25 linear foot.
 800 cubic yards, more or less, concrete for 5-foot 6-inch, 5-foot 3-inch, 2-foot 9-inch and 2-foot 6-inch concrete surface drains at \$7.25 cubic yard.
 85 cubic yards, more or less, concrete, including 240 linear feet, more or less, 24-inch channel pipe for 2-foot concrete and channel surface drain at \$8.80 cubic yard.
 235 linear feet, more or less, 12-inch pipe surface drain at \$1 linear foot.
 70 linear feet, more or less, 10-inch pipe surface drain at 85c. linear foot.
 170 linear feet, more or less, 10-inch pipe catch-basin drain at 69c. linear foot.
 90, more or less, pipe connections at 58c. each.

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Prescott street, between Frankfort street and B., R. B. & L. R. R. and outlet in Lubec street, East Boston.	William J. Walsh * (7 bidders.)	May 4, 1909.	10 linear feet, more or less, of old house drain rebuilt and reconnected at 50c. linear foot. 10 linear feet, more or less, of old drain rebuilt at \$1 linear foot. 8 linear feet, more or less, 10-inch pipe chimney, including 1 10-inch by 10-inch T, and setting 1 lamphole frame and cover, at 80c. linear foot. For building 2, more or less, inverts in manholes on old house sewer at \$6 each. 7 manholes on concrete surface drains at \$30 each. 1 manhole, or more, on pipe surface drain at \$30 each. 12 catch-basins, more or less, at \$54 each. For building over the 5-foot 6-inch surface drain in Lubec street, when completed, an embankment 2 feet in depth over the top of the outside of the concrete arch, 2½ feet on each side of the center line and 250 linear feet, more or less, in length, with side slopes 1½ feet to 1 foot, at 30c. linear foot.		
Tenean creek conduit, in Mill street and land of City of Boston, from existing brick conduit, about 903 feet southerly, Dorchester.	Byrne Contracting Company * . (13 bidders.)	May 18, 1909.	872 linear feet, more or less, earth excavation and refilling to the grade of Mill street, and to grade as indicated on plans or as directed by the Superintendent, etc., at \$10 per linear foot. 31 linear feet, more or less, excavation of present channel south of Mill street, including the removal of existing timber foundation, cutting off old piles, etc., at \$10 per linear foot. 100 cubic yards, more or less, of earth excavation for reinforced conduit in and south and north of Mill street, below grade, other than for underdrain, at \$1 cubic yard. 10 cubic yards, more or less, earth excavation for relocating structures and incidental work at 50c. cubic yard.	Final payment not made.	\$43,866 45

10 cubic yards, more or less, rock excavation at 50c. cubic yard.
 330 cubic yards, more or less, brick masonry laid in Portland hydraulic cement mortar at \$14 cubic yard.
 3,000 cubic yards, more or less, reinforced concrete for arches, etc., laid in Portland hydraulic cement mortar at \$8.50 cubic yard.
 1,000 feet, board measure, more or less, 3-inch tongued and grooved spruce lumber, left in place for sheathing at \$55 per M. feet.
 60,000 feet, board measure, more or less, spruce lumber left in place for sheathing and shoring at \$22 per M. feet.
 10,000 feet, board measure, more or less, spruce lumber for platforms, etc., at \$30 per M. feet.
 For laying 903 linear feet, more or less, of 12-inch, 10-inch or 8-inch pipe underdrain at 30c. linear foot.
 For laying 10 linear feet, more or less, 18-inch pipe for house sewer at 30c. linear foot.
 For furnishing, laying and connecting 24 linear feet, more or less, of 20-inch cast-iron pipe at \$3.50 linear foot.
 For 2 pipe connections, more or less, in new concrete conduit at \$1 per connection.
 For furnishing Portland or Akron sewer pipe, 70 per cent discount from standard list price.
 100 cubic yards, more or less, of gravel refill at \$2 cubic yard.
 For removing, replacing and furnishing 20 cubic yards, more or less, of riprap at \$1 cubic yard.
 For rebuilding and furnishing 10 cubic yards, more or less, of old rubble stone masonry for parapet wall at \$3 cubic yard.
 For building 30 linear feet, more or less, of 12-inch by 12-inch wooden box drain at 50c. linear foot.
 For furnishing, driving and cutting off 25,000 linear feet, more or less, of spruce piles at 14c. linear foot.
 For removing and replacing old granite coping on wing walls and parapet walls to include rebuilding of present iron and wooden fence, the sum of \$50.

* The contractor to furnish all the materials except the iron work and cut stone.

Sewer Contracts Awarded, 1909-10.—*Continued.*

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Guernsey street, between South street and N. Y., N. H. & H. R. R., West Roxbury.	Antony Cefalo *..... (8 bidders.)	May 26, 1909.	5 cubic yards, more or less, earth excavation, below grade, other than for underdrain at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 10 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 2,000 feet, board measure, more or less, spruce for sheeting at \$22 M. feet. 0.5 feet, board measure, more or less, spruce for platforms, etc., at \$22 M. feet. 2 cubic yards, more or less, concrete at \$3.75 cubic yard. 490 linear feet, more or less, 10-inch pipe sewer at 98c. linear foot. 18 linear feet, more or less, 6-inch pipe chimneys at 25c. linear foot. 10 linear feet, more or less, old drain rebuilt at 5c. linear foot. 3 manholes at \$40 each. 5 cubic yards, more or less, gravel or sand refill at 25c. cubic yard. 50 linear feet, more or less, 6-inch pipe underdrain at 25c. linear foot. 1 or more old manhole inverts rebuilt at \$2 each.	\$604 70	\$385 80
Huntington avenue, between Canterbury street and Hyde Park line, West Roxbury.	Antony Cefalo *..... (13 bidders.)	June 2, 1909.	5 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 20 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 400 cubic yards, more or less, rock excavation at \$4 cubic yard. 3,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet.	3,765 06	4,223 85

Walworth street, between South street and N. Y., N. H. & H. R. R., West Roxbury.	Antony Cefalo *..... (9 bidders.)	May 28, 1909.	15 cubic yards, more or less, concrete at 5c. cubic yard. 1,148 linear feet, more or less, 10-inch pipe sewer at \$1.15 linear foot. 60 linear feet, more or less, 6-inch pipe chimneys at 25c. linear foot. 10 linear feet, more or less, of old drain rebuilt at 5c. linear foot. 6 manholes at \$40 each. 10 cubic yards, more or less, gravel or sand refill at 1c. cubic yard. 100 linear feet, more or less, 6-inch pipe under-drain at 5c. linear foot. 1 or more manhole inverts rebuilt at \$2 each. 1 cubic yard, more or less, of earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 100 cubic yards, more or less, rock excavation at \$3.50 cubic yard. 2,000 feet, board measure, more or less, spruce for sheeting at \$22 M. feet. 2 cubic yards, more or less, concrete at 5c. cubic yard. 380 linear feet, more or less, 10-inch pipe surface drain at 70c. linear foot. 10 linear feet, more or less, 10-inch pipe catch-basin drain at 50c. linear foot. 6 linear feet, more or less, old drain rebuilt at 5c. linear foot. 2 manholes at \$40 each. 1 or more catch-basins at \$40 each. 1 or more cubic yards gravel or sand refill at 5c. cubic yard.	618 57	990 10
Catch-basins and connections in Montfern avenue and Newcastle road, Brighton.	Martin F. Gaddis *..... (Unadvertised.)	June 10, 1909.	8, more or less, catch-basins built, including furnishing and laying 85 linear feet, more or less, 10-inch pipe catch-basin drain, 6 1/2-inch by 10-inch Y's, 1 10-inch by 12-inch Y, 1 10-inch slant Y, and all necessary bends at \$80 each.	640 00	

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Radcliffe street, from Faxon street to Carmen street, and Carmen street, from Kilton street to Faxon street, Dorchester.	Fallon & Maffie *..... (11 bidders.)	June 18, 1909.	2 cubic yards, more or less, of earth excavation below grade, other than for underdrain at \$1.25 cubic yard. 2 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 2 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 3,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 2 cubic yards, more or less, concrete at \$7 cubic yard. 387 linear feet, more or less, trench excavation and refill for 10-inch pipe sewer, with 15-inch 12-inch or 10-inch pipe surface drain in same trench, including removal of old sewer, drains, etc., at 85c. linear foot. Furnishing and laying 387 linear feet, more or less, 10-inch pipe for sewers at 35c. linear foot. Furnishing and laying 370 linear feet, more or less, 10-inch pipe for sewers at 95c. linear foot. Furnishing and laying 124 linear feet, more or less, 15-inch pipe for surface drains at 75c. linear foot. Furnishing and laying 144 linear feet, more or less, 12-inch pipe for surface drains at 36c. linear foot. Furnishing and laying 108 linear feet, more or less, 10-inch pipe for surface drain at 35c. linear foot. Furnishing and laying 25 linear feet, more or less, 10-inch pipe for catch-basin drains, including excavation and refill at 83c. linear foot.	\$2,038 82	\$2,151 66

Maybrook street, from Greenwood street to Glenway street, Dorchester.	Antony Cefalo * (10 bidders.)	Furnishing and laying 36 linear feet, more or less, 6-inch pipe house drains, including excavation and refill at 50c. linear foot. 49 linear feet, more or less, of old house drain rebuilt, including excavation and refill, at 65c. linear foot. For each linear foot, more or less, of old drain rebuilt, other than house and catch-basin drain, including excavation and refill at \$1 linear foot. 2, more or less, 18-inch by 15-inch or 12-inch by 10-inch, Y's, placed in old pipe sewers or drains at \$6.50 each. 5 manholes on house sewer at \$40 each. 3 manholes on surface drain at \$36 each. 3, more or less, catch-basins at \$45 each. 4 cubic yards, more or less, gravel or sand refill at \$1 cubic yard. 772 linear feet, more or less, 6-inch pipe under-drain at 20c. linear foot. Temporary 12-inch pipe connection, between manhole on surface drain and manhole on sewer, the sum of \$10. 1 or more old catch-basins to be remodelled, the sum of \$25. 1 cubic yard or more of earth excavation, below grade, other than for underdrain at \$1.25 cubic yard. 1 cubic yard or more extra excavation at 75c. cubic yard. 5 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 200 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 1 cubic yard or more concrete at \$7 cubic yard. 154 linear feet, more or less, 12-inch pipe surface drain at 75c. linear foot. 155 linear feet, more or less, 10-inch pipe surface drain at 65c. linear foot. 24 linear feet, more or less, 10-inch pipe catch-basin drain at 65c. linear foot.	379 03	458 45
---	--	---	--------	--------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10. — *Continued.*

CONTRACT.	Awarded to	Dated.*	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Maybrook street, from Greenwood street to Glenway street, Dorchester.	Antony Cefalo *..... (10 bidders.)	June 18, 1909.	10 linear feet, more or less, old house drain rebuilt at 25c. linear foot. 2 manholes built on surface drain at \$30 each. 2 catch-basins, more or less, at \$40 each. 1 cubic yard or more brick masonry at \$14 cubic yard. 1 cubic yard or more gravel or sand refill at \$1.25 cubic yard. 1 or more connection with old sewer at \$2 each.		
Frankfort street, between a point 250 feet south of Porter street and Porter street, and in Cottage street, between Gove and Porter streets, East Boston.	J. H. Ferguson *..... (9 bidders.)	June 18, 1909.	10 cubic yards, more or less, of earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 10 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 3 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 5,900 linear feet, more or less, spruce piles at 15c. linear foot. 13,000 feet, board measure, more or less, spruce sheeting at \$25 M. feet. 2,000 feet, board measure, more or less, spruce platforms, etc., at \$50 M. feet. 240 cubic yards, more or less, concrete at \$6.25 cubic yard. 752 linear feet, more or less, 10-inch pipe, including 10-inch by 6-inch Y branches, 25 feet apart on each side at \$1.90 linear foot. 49 linear feet, more or less, 6-inch pipe for chimneys at 50c. linear foot. For each linear foot of old drain rebuilt the sum of \$1 linear foot. 4 manholes built on house sewer at \$40 each. 70 cubic yards, more or less, gravel or sand refill at \$1.25 cubic yard. 725 linear feet, more or less, 6-inch pipe underdrain at 20c. linear foot. 1 or more old manhole inverts rebuilt at \$10 each.	\$5,047 99	\$5,034 22

2,000 50

inawan avenue, between Beech street, and Stratford avenue, West Roxbury.	John Guarino * (7 bidders.)	June 18, 1909.	5 cubic yards, more or less, earth excavation below grade, other than for underdrain at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 25 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 2,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 3 cubic yards, more or less, concrete at 1c. cubic yard. 955 linear feet, more or less, 10-inch pipe sewer at \$1.09 linear foot. 60 linear feet, more or less, 6-inch pipe chimneys at 25c. linear foot. 900 linear feet, more or less, of existing sewer removed at 15c. linear foot. 60 linear feet, more or less, of old house drain rebuilt, including cost of excavation to determine location of same, at 50c. linear foot. 20 linear feet, more or less, of old drain rebuilt, other than house and catch-basin drain, at 75c. linear foot. 4 manholes built on house sewer at \$50 each. 10 cubic yards, more or less, gravel or sand refill at 1c. cubic yard. 100 linear feet, more or less, 6-inch pipe underdrain at 25c. linear foot. For 1 connection with old manhole, including bulkhead in old brick branch, the sum of \$10.	1,801 57 Including extra work amounting to \$93.58.
Keyes street, between West Roxbury low level sewer and Stedman street, and in Stedman street, between Williams street and Brook road, West Roxbury.	Coughlan & Sheils Company *. (Unadvertised.)	May 17, 1909.	12 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 25 linear feet, more or less, 12-inch pipe furnished and laid for sewers, including building one manhole, at 66c. linear foot. 165 linear feet, more or less, 10-inch pipe sewers at 66c. linear foot. 545 linear feet, more or less, 10-inch pipe furnished and laid, including building 4 manholes at 81c. linear foot.	\$619 12 Including extra work amounting to \$19.53.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Gove street, between Cottage and Frankfort streets, and in Lubec street, between Gove and Porter streets, East Boston.	Thomas J. Young Company *. (9 bidders.)	June 19, 1909.	246 linear feet, more or less, earth excavation, above grade, for 24-inch combination concrete and channel pipe surface drain at \$1 linear foot. 250 linear feet, more or less, earth excavation, above grade, for 20-inch combination concrete and channel pipe surface drain at \$1 linear foot. 10 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 20 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 10 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 19,000 linear feet, more or less, spruce piles at 15c. linear foot. 25,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 1,000 feet, board measure, more or less, spruce platforms, etc., at \$35 M. feet. 500 cubic yards, more or less, concrete, including 246 linear feet, more or less, of 24-inch channel pipe and 250 linear feet, more or less, of 20-inch channel pipe, at \$6.75 cubic yard. 945 linear feet, more or less, 10-inch pipe sewer at \$1.35 linear foot. 334 linear feet, more or less, 12-inch pipe surface drain at \$1.15 linear foot. 20 linear feet, more or less, 6-inch pipe house drain at 80c. linear foot. 80 linear feet, more or less, 6-inch iron pipe at 85c. linear foot. 10 linear feet, more or less, old drain rebuilt at 50c. linear foot.	\$10,388 79	\$11,137 75

Williams, Keyes, Plainfield and Meehan streets, and extensions in Brook road, between Stedman and Plainfield streets, and Keyes street, between Stedman and Plainfield streets, West Roxbury.	William L. Dolan * (12 bidders.)	July 23, 1909.	46, more or less, 6-inch and 10-inch slants for surface drain at 50c. each. 5 manholes built on house sewer at \$40 each. 6 manholes built on surface drain at \$25 each. 50 cubic yards, more or less, gravel or sand refill at \$1.50 cubic yard. 800 linear feet, more or less, 6-inch pipe underdrain at 20c. linear foot. 145 linear feet, more or less, 8-inch pipe underdrain at 20c. linear foot. 1 or more old manhole inverts rebuilt at \$10 each. 1 24-inch slant placed in old wooden surface drain, the sum of \$5. 150 linear feet, more or less, 15-inch pipe surface drain at \$1.25. 50 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 10 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 10 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 16,000 feet, board measure, more or less, spruce sheeting at \$20 M. feet 1,000 feet, board measure, more or less, spruce platforms, etc., at \$25 M. feet. 20 cubic yards, more or less, concrete at \$5.50 cubic yard. 200 linear feet, more or less, 12-inch pipe sewer at \$1.35 linear foot. 2,651 linear feet, more or less, 10-inch pipe sewer, at \$1.12 linear foot. 9 linear feet, more or less, 10-inch pipe chimney at 40c. linear foot. 50 linear feet, more or less, of old drain rebuilt at 70c. linear foot. 14 manholes built on house sewer at \$31 each. 50 cubic yards, more or less, gravel or sand refill at 50c. cubic yard. 1,500 linear feet, more or less, 6-inch pipe underdrain at 1c. linear foot. 1 or more old manhole inverts rebuilt at \$5 each.	4,435 28 including extra work amounting to \$26.22.	4,891 70
---	-------------------------------------	----------------	---	---	----------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10. — *Continued.*

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Fremont street, from Blue Hill avenue to Norfolk street, Dorchester.	James H. Ferguson * (7 bidders.)	July 23, 1909.	5 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation, at 75c. cubic yard. 75 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 3,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 2 cubic yards, more or less, concrete at \$5 cubic yard. 225 linear feet, more or less, 12-inch pipe sewer at \$1.35 linear foot. 20 linear feet, more or less, 6-inch pipe chimney at 70c. linear foot. 5 linear feet, more or less, old house drain rebuilt at 50c. linear foot. For each linear foot of old catch-basin drain rebuilt 90c. For each linear foot of old drain rebuilt, other than house or catch-basin drain, \$1. 2 manholes built on house sewer at \$42 each. 5 cubic yards, more or less, gravel or sand refill at 50c. cubic yard. 100 linear feet, more or less, 6-inch pipe underdrain at 5c. linear foot.	\$877 04	\$925 00
South street, between Farquhar and Centre streets, West Roxbury.	William L. Dolan * (10 bidders.)	July 29, 1909.	189 linear feet, more or less, earth excavation for 2 foot 9 inch circular concrete surface drain above grade at \$1.65 linear foot. 264 linear feet, more or less, earth excavation for 2 foot 3 inch circular concrete surface drain above grade at \$1.40 linear foot. 1,151 linear feet, more or less, earth excavation for 2 foot combination, concrete and pipe surface drain at \$1.20 linear foot.	Final payment not made.	10,191 95

320 linear feet, more or less, earth excavation for 20-inch combination concrete and pipe surface drain at \$1.08 linear foot.
 10 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard.
 50 cubic yards, more or less, extra earth excavation at 75c. cubic yard.
 150 cubic yards, more or less, rock excavation at \$4.50 cubic yard.
 10,000 feet, board measure, more or less, spruce sheeting at 1c. M. feet.
 100 linear feet, more or less, 6-inch pipe underdrain at 1c. linear foot.
 10 cubic yards, more or less, gravel or sand refill at 75c. cubic yard.
 160 cubic yards, more or less, concrete 2 foot 9 inch and 2 foot 3 inch surface drains at \$7.25 cubic yard.
 325 cubic yards, more or less, concrete, including 1,120 linear feet, more or less, of 24-inch channel pipe for 2-foot concrete and pipe surface drain at \$8.50 cubic yard.
 80 cubic yards, more or less, concrete, including 310 linear feet, more or less, of 20-inch channel pipe for 20-inch concrete and pipe surface drain at \$8 cubic yard.
 360 linear feet, more or less, 12-inch pipe surface drain at \$1 linear foot.
 370 linear feet, more or less, 10-inch pipe surface drain at 92c. linear foot.
 230 linear feet, more or less, 10-inch pipe catch-basin drain at 75c. linear foot.
 160, more or less, pipe connections at 55c. each.
 60 linear feet, more or less, old house drain rebuilt at 50c. linear foot.
 20 linear feet, more or less, old catch-basin drain rebuilt at 50c. linear foot.
 10 linear feet, more or less, old drain rebuilt other than house and catch-basin drain at 50c. linear foot.

* The contractor to furnish all the material except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
South street, between Farquhar and Centre streets, West Roxbury.	William L. Dolan * (10 bidders.)	July 29, 1909.	16 linear feet, more or less, 10-inch pipe chimney including 2 10-inch by 10-inch T's and setting 2 lamphole frames and covers at \$1 linear foot. 11 manholes, more or less, on concrete surface drain at \$30 each. 4 manholes, more or less, on pipe surface drain at \$30 each. 11 catch-basins, more or less, at \$48 each. 2, more or less, connections between old pipe surface drain and concrete and channel pipe surface drain at \$2 each. 1 connection between 2 foot 9-inch concrete surface drain and old stone culvert the sum of \$5.		
Shafter street, from Faxon street to Waterlow street, Dorchester.	A. De Marco & Co. * (10 bidders.)	July 29, 1909.	1 cubic yard, more or less, earth excavation, below grade, other than for underdrain at \$1.25 cubic yard. 15 cubic yards, more or less, extra earth excavation at 75c cubic yard. 10 cubic yards, more or less, rock excavation at \$4.80 cubic yard. 500 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 2 cubic yards, more or less, concrete at \$7 cubic yard. 394 linear feet, more or less, 12-inch pipe surface drain at 65c. linear foot. 304 linear feet, more or less, 10-inch pipe surface drain at 62c. linear foot. 18 linear feet, more or less, 10-inch pipe catch-basin drain, including removal of old pipe, at 35c. linear foot.	\$624 22	\$935 10

Bradstreet avenue, between Mt. Hope street and point 435 feet southwesterly, West Roxbury.	Antony Cefalo * (7 bidders.)	20 linear feet, more or less, old house drain rebuilt at 25c. linear foot. 5 manholes built on surface drain at \$35 each. 1 or more cubic yards brick masonry built at \$14 cubic yard. 2 cubic yards, more or less, gravel or sand refill at \$1.25 cubic yard. 20 linear feet, more or less, 6-inch pipe under-drain at 20c. linear foot. 2 cubic yards, more or less, earth excavation, below grade, other than for under-drain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 10 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 2,000 feet board measure, more or less, spruce sheeting at \$22 M. feet. 0.5 feet board measure, more or less, spruce platforms, etc., at 10c. M. feet. 1 or more cubic yards concrete at \$3 cubic yard. 435 linear feet, more or less, 10-inch pipe sewer at \$1.05 linear foot. 9 linear feet, more or less, 6-inch pipe chimney at 25c. linear foot. 10 linear feet, more or less, old drain rebuilt at 2c. linear foot. 2 manholes on house sewer at \$30 each. 5 cubic yards, more or less, gravel or sand refill at 1c. cubic yard. 200 linear feet, more or less, 6-inch pipe under-drain at 5c. linear foot. 1 or more old manhole inverts rebuilt at \$2 each. For furnishing and laying 1 12-foot length 10-inch cast-iron pipe under old 3-foot brick surface drain, including cutting through invert of old 3-foot brick surface drain, etc., the sum of \$10.	516 23	779 25
--	---------------------------------------	---	--------	--------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Talbot avenue, Westtoot, West Park and Standish streets, Dorchester.	G. M. Byrne Company * (13 bidders.)	Aug. 3, 1909.	For excavating and refilling 254 linear feet, more or less, for 7-foot 6-inch by 5-foot reinforced concrete surface drain, together with all attached manholes and pipe sewers, etc., at \$4 linear foot. For excavating and refilling 868 linear feet, more or less, for 4-foot 3-inch or 4-foot 9-inch diameter concrete surface drain, together with attached and depressed 10-inch pipe sewer manholes, house connections, etc., at \$3.25 linear foot. For excavating and refilling 37 linear feet, more or less, of single trench for 4-foot 9-inch diameter concrete surface drains at \$3.25 linear foot. For excavating and refilling 298 linear feet, more or less, of single trench for 6-foot 6-inch diameter concrete surface drain at \$5 linear foot. 3 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$2 cubic yard. 65 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 35 cubic yards, more or less, rock excavation at \$4 cubic yard. 98 cubic yards, more or less, brick masonry, except manholes and catch-basins, at \$15 cubic yard. 815 cubic yards, more or less, Class A concrete at \$7 cubic yard. 400 cubic yards, more or less, Class B concrete at \$6.50 cubic yard. 200 pounds, more or less, steel rods or bars at 5c. pound in place. 10 tons, more or less, I-beams at \$40 ton in place.	\$19,390 35 including extra work amounting to \$329.98	\$20,491 23

2,286 square feet, more or less, No. 2 Kahn rib-metal at 16c. square foot in place.
 75 square yards, more or less, No. 2 Kahn rib-lathing at 30c. square yard in place.
 60 linear feet, more or less, 10-inch pipe house sewer in separate trench, including excavating and refilling at \$1 linear foot.
 For furnishing and laying 896 linear feet, more or less, 12-inch or 10-inch pipe house sewer in main trench attached to or below surface drain at 75c. linear foot.
 For furnishing and laying 1,500 linear feet, more or less, 8-inch or 6-inch pipe underdrain at 30c. linear foot.
 For furnishing and laying 112, more or less, pipe connections 6 inches to 15 inches diameter in new concrete surface drains at 50c. each.
 For removing and relaying 140 linear feet, more or less, of old house drains, inside or outside of main trench, at 75c. linear foot.
 Furnishing and laying 20 linear feet, more or less, 6-inch pipe house drain at 60c. linear foot.
 10 cubic yards, more or less, gravel refill at \$1.50 cubic yard.
 8 manholes, more or less, on pipe house sewer at \$30 each.
 5 manholes, more or less, on concrete surface drains at \$30 each.
 1 or more old manholes rebuilt at \$50 each.
 1 special catch-basin at \$75.
 3 connections, more or less, made with old sewers or catch-basins, including necessary rebuilding old walls, inverts, resetting traps, etc., the sum of \$5 each.
 Furnishing and laying, including removal of old pipe excavation and refill, 40 linear feet, more or less, 10-inch pipe catch-basin drain at 75c. linear foot.
 1 connection with old 6-foot diameter surface drain, the sum of \$25.

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Folsom street, between Neponset avenue and Florence street, West Roxbury.	Antony Cefalo * (7 bidders.)	Aug. 4, 1909.	1 cubic yard, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 5 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 2,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 0.5 feet, board measure, more or less, spruce platforms, etc., at 1c M. feet. 2 cubic yards, more or less, concrete at 10c. cubic yard. 200 linear feet, more or less, 10-inch pipe sewer at \$1 linear foot. 10 linear feet, more or less, old drain rebuilt at 25c. linear foot. 1 or more 12-inch by 10-inch Y's at \$2 each. 2 manholes built on house sewer at \$30 each. 1 or more cubic yards gravel or sand refill at 1c cubic yard. 20 linear feet, more or less, 6-inch pipe underdrain at 1c. linear foot.	\$263 86	\$424 00
Newbern street, between Canterbury street and Richards avenue, West Roxbury.	Antony Cefalo * (10 bidders.)	Aug. 10, 1909.	1 or more cubic yards earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 50 cubic yards, more or less, rock excavation at \$5 cubic yard. 2,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 5 cubic yards, more or less, concrete at \$2 cubic yard. 867 linear feet, more or less, 10-inch pipe sewer at \$1.10 linear foot.	2,859 92 Including extra work amounting to \$4.76.	1,087 95

Simmons street, from Vernon street to Linden Park street, Roxbury.	Mark H. Lynch *..... (10 bidders.)	Aug. 17, 1909.	50 linear feet, more or less, 6-inch pipe chimney at 25c. linear foot. 10 linear feet, more or less, old drain rebuilt at 10c. linear foot. 6 manholes built on house sewer at \$42 each. 5 cubic yards, more or less, gravel or sand refill at 1c. cubic yard. 20 linear feet, more or less, 6-inch pipe under-drain at 20c. linear foot. 120 cubic yards, more or less, earth excavation, below grade, other than for under-drain at 50c. cubic yard. 5 cubic yards, more or less, extra earth excavation, at 75c. cubic yard. 1 or more cubic yards rock excavation at \$4.50 cubic yard. 6,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 5,000 feet board measure, more or less, spruce platforms, etc., at \$3 M. feet. 5 cubic yards, more or less, concrete at \$5 cubic yard. 10 linear feet, more or less, 15-inch pipe sewer at \$3.50 linear foot. 649 linear feet, more or less, 12-inch pipe sewer, \$1.40 linear foot. 320 linear feet, more or less, 18-inch drain sewer pipe for surface drain at \$1.40 linear foot. 10 linear feet, more or less, 10-inch pipe catch-basin new or rebuilt, prices to include removal of old pipe, at 90c. linear foot. 320 linear feet, more or less, of existing house sewer or drain, including manholes removed, at 10c. linear foot. 70 linear feet, more or less, of old house drain rebuilt or new house drain laid (inside or outside of main trench) at \$1 linear foot. 4 manholes built on house sewer at \$37 each. 2 manholes built on surface drain at \$34 each. 1 special manhole built on house sewer at \$50. 1 or more cubic yards brick masonry at \$14 cubic yard.	2,163 76	2,715 05
--	---------------------------------------	----------------	---	----------	----------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909=10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Simmons street, from Vernon street to Linden Park street, Roxbury.	Mark H. Lynch * (10 bidders.)	Aug. 17, 1909.	100 cubic yards, more or less, gravel or sand refill at 5c. cubic yard. 639 linear feet, more or less, 6-inch pipe under- drain at 12c. linear foot. 1 or more connections with old 15-inch pipe sewer at \$5 each.		
Washington street, between Williams and Green streets, West Roxbury.	Thomas J. Young Company * .. (7 bidders.)	Aug. 25, 1909.	430 linear feet, more or less, earth excavation, above grade, for 2-foot 9-inch concrete sur- face drain at \$3.15 linear foot. 130 linear feet, more or less, earth excavation, above grade, for 2-foot 6-inch concrete sur- face drain at \$2.75 linear foot. 190 linear feet, more or less, earth excavation for 2-foot combination concrete and channel pipe surface drain at \$2.15 linear foot. 188 linear feet, more or less, earth excavation for 20-inch combination concrete and channel pipe surface drain at \$1.75 linear foot. 40 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 40 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 100 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 50,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 5,000 feet, board measure, more or less, spruce platform, etc., at \$35 M. feet. 1,000 linear feet, more or less, 6-inch pipe underdrain at 15c. linear foot. 200 linear feet, more or less, 8-inch pipe under- drain at 20c. linear foot. 100 cubic yards, more or less, gravel or sand refill at \$1.50 cubic yard.	Final payment not made.	\$8,541 20

200 cubic yards, more or less, concrete for 2-foot 9-inch and 2-foot 6-inch surface drains at \$6.80 cubic yard.
55 cubic yards, more or less, concrete, including 184 linear feet, more or less, 24-inch channel pipe for 2-foot combined concrete and channel pipe surface drain, at \$8.15 cubic yard.
45 cubic yards, more or less, concrete, including 180 linear feet, more or less, 20-inch channel pipe for 20-inch combined concrete and channel pipe surface drain, at \$8.15 cubic yard.
292 linear feet, more or less, 12-inch pipe surface drain at \$1.55 linear foot.
40 linear feet, more or less, 15-inch pipe surface drain at \$1.55 linear foot.
16 linear feet, more or less, 18-inch pipe surface drain at \$1.55 linear foot.
14 linear feet, more or less, 10-inch pipe catch-basin at 85c. linear foot.
74, more or less, pipe connections with surface drains at 50c. each.
20 linear feet, more or less, of old house drain rebuilt at 50c. linear foot.
20 linear feet, more or less, of old catch-basin drain rebuilt at 50c. linear foot.
20 linear feet, more or less, of old drain rebuilt, other than house or catch-basin, at 50c. linear foot.
6 manholes, more or less, built on concrete and channel pipe surface drains at \$49 each.
2 manholes, more or less, built on pipe surface drain at \$35 each.
1 special manhole, or more, built on pipe surface drain at \$40 each.
1 or more manholes built on lateral pipe surface drain at \$35 each.
1 or more catch-basins built at \$55 each.
1 connection with old Stony Brook conduit, including cutting into old conduit and doing all incidental work, the sum of \$25.

* The contractor to furnish all the materials except the iron work and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Building culvert in Asylum road, about 60 feet south of Canterbury street, West Roxbury.	Coughlan & Shells Company *. (6 bidders.)	Sept. 2, 1909.	825 cubic yards, more or less, earth excavation, including all incidental work, at 60c. cubic yard. For building 13-foot by 6-foot 6-inch reinforced concrete culvert, parapet walls, wing walls, etc., and building 2-foot 9-inch by 2-foot wooden box, the lump sum of \$1,425. 10 cubic yards, more or less, rock excavation at \$1 cubic yard.	\$1,883 38	\$2,875 00
Elmo street, from Greenwood street to Erie street and outlet in Greenwood street, Dorchester.	Daniel E. Lynch * (6 bidders.)	Sept. 3, 1909.	1 or more cubic yards earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 1 or more cubic yards extra earth excavation at 75c. cubic yard. 20 cubic yards, more or less, rock excavation at \$4 cubic yard. 100 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 1 or more cubic yards concrete at \$7 cubic yard. 320 linear feet, more or less, 10-inch pipe sewer at 90c. linear foot. 2 manholes built on house sewer at \$30 each. 5 cubic yards, more or less, gravel or sand refill at \$1.25 cubic yard. 100 linear feet, more or less, 6-inch pipe underdrain at 20c. linear foot. 1 or more manhole inverts rebuilt at \$10 each.	462 29	584 45
Mora street, between Washington street and Milton avenue, and in Washington street, between Armandine street and Mora street, Dorchester.	John T. Shea, Jr. * (9 bidders.)	Sept. 9, 1909.	2 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 300 cubic yards, more or less, rock excavation at \$4.25 cubic yard.	Final payment not made.	3,019 75

Washington street, between Williams street and Arborway, West Roxbury.	Edward F. Kennelly * (5 bidders.)	Sept. 14, 1909.	1,000, or more feet, board measure, spruce sheeting at \$22 M. feet. 2 cubic yards, more or less, concrete at \$6 cubic yard. 738 linear feet, more or less, 15-inch pipe surface drains at \$1.15 linear foot. 218 linear feet, more or less, 12-inch pipe surface drain at 90c. linear foot. 66 linear feet, more or less, 10-inch pipe catch-basin drain at 80c. linear foot. 10 linear feet, more or less, old house drain rebuilt at 50c. linear foot. For each linear foot old catch-basin rebuilt at 80c. linear foot. For each linear foot of old drain rebuilt, other than house and catch-basin drain, at 75c linear foot. 6, more or less, 12-inch by 10-inch Y's placed in old pipe surface drains at \$2.30 each. 6 manholes built on surface drain at \$28 each. 7 catch-basins, more or less, at \$45 each. 2 cubic yards, more or less, gravel or sand refill at 1c. cubic yard. 100 linear feet, more or less, 6-inch pipe under-drain at 1c. linear foot. 1 or more old manhole inverts and walls rebuilt and connected with new surface drain at \$3 each. 1 or more 18-inch by 15-inch Y placed in old surface drain at \$4 each. 50 square yards, more or less, of pavement taken up and relaid at 25c. square yard. 10 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 10 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 10 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 5,000 feet, board measure, more or less, spruce sheeting at \$15 M. feet.	\$1,272 22 Including extra work amounting to \$26.85.	1,776 60
--	--------------------------------------	-----------------	--	---	----------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10. — *Continued.*

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Washington street, between Williams street and Arborway, West Roxbury.	Edward F. Kennelly * (5 bidders.)	Sept. 14, 1909.	1,000 feet, board measure, more or less, spruce platforms, etc., at \$20 M. feet. 100 linear feet, more or less, 6-inch pipe under-drain at 5c. linear foot. 10 cubic yards, more or less, gravel or sand refill at 25c. cubic yard. 10 cubic yards, more or less, concrete at \$5.50 cubic yard. 110 linear feet, more or less, 12-inch pipe sewer at \$1.50 linear foot. 250 linear feet, more or less, 10-inch pipe catch-basin drain at 75c. linear foot. 7, more or less, 10-inch slants placed in old brick sewer at \$2.50 each. 2, more or less, 10-inch by 10-inch Y's placed in old pipe sewer at \$5 each. 4, more or less, 15-inch by 10-inch Y's placed in old sewer at \$3.50 each. 20 linear feet, more or less, old house drain rebuilt and reconnected at 60c. linear foot. 20 linear feet, more or less, of old catch-basin rebuilt and reconnected at 60c. linear foot. 20 linear feet, more or less, of old drain rebuilt, other than house or catch-basin drain, at 60c. linear foot. 1 or more manholes on old pipe sewer at \$35 each. 4 manholes, more or less, on pipe sewer at \$30 each. 13 catch-basins, more or less, at \$52 each.		
Avenue Louis Pasteur, between Fenway and Longwood avenue, Roxbury. (Catch-basins and connections.)	James J. O'Brien * (6 bidders.)	Sept. 15, 1909.	5 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard.	\$713 84	\$1,152 75

Grew avenue brook conduit, in Grew avenue, between Hyde Park line and Canterbury street, West Roxbury.	Antony Cefalo * (11 bidders.)	Sept. 15, 1909.	5 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 2,500 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 1,000 feet, board measure, more or less, spruce platforms, etc., at \$40 M. feet. 25 cubic yards, more or less, concrete at \$5 cubic yard. 100 linear feet, more or less, 10-inch pipe catch-basin drain at 65c. linear foot. 10 catch-basins, more or less, at \$48 each. 1 or more cubic yards brick masonry at \$15 cubic yard. 5 cubic yards, more or less, gravel or sand refill at \$1.50 cubic yard. For excavating 125 linear feet, more or less, of open trench to average depth of four (4) feet, trench to be two (2) feet wide on bottom, with side slopes $1\frac{1}{4}$ to 1, at \$1 linear foot. 490 linear feet, more or less, earth excavation for 4-foot 6-inch circular concrete conduit at \$1 linear foot. 600 linear feet, more or less, earth excavation for 4-foot 3-inch circular concrete conduit at \$1 linear foot. 425 linear feet, more or less, earth excavation for 2-foot 6-inch circular concrete conduit at \$1 linear foot. 50 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 10 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 25 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 18,000 feet, board measure, more or less, spruce sheeting at \$25 M. feet. 1,000 feet, board measure, more or less, spruce platforms, etc., at \$35 M. feet. 1,200 linear feet, more or less, 6-inch pipe underdrain at 10c. linear foot.	9,340 00	Final payment not made.
--	--	-----------------	---	----------	-------------------------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909=10.— *Continued.*

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Grew avenue brook conduit, in Grew avenue, between Hyde Park line and Canterbury street, West Roxbury.	Antony Cefalo * (11 bidders.)	Sept. 15, 1909.	315 linear feet, more or less, 8-inch pipe underdrain at 20c. linear foot. 100 cubic yards, more or less, gravel or sand refill at 5c. cubic yard. 940 cubic yards, more or less, Portland cement concrete at \$6.25 cubic yard. 120, more or less, pipe connections placed in concrete conduit at 50c. each. 10 linear feet, more or less, of old drain rebuilt and reconnected at 50c. linear foot. 4 manholes, more or less, at \$30 each. 1 connection with old stone culvert at \$1.		
Farnham street, from existing sewer 265 feet easterly, Roxbury.	James H. McCarthy * (4 bidders.)	Sept. 18, 1909.	10 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1 cubic yard. 1 or more cubic yards extra earth excavation at 75c. cubic yard. 1 or more cubic yards rock excavation at \$4.50 cubic yard. 100 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 100 feet, board measure, more or less, spruce platforms, etc., at \$1 M. feet. 1 or more cubic yards concrete at \$7 cubic yard. 265 linear feet, more or less, 15-inch pipe sewer at \$1.45 linear foot. 4 linear feet, more or less, old drain rebuilt at \$1 linear foot. 2 manholes at \$35 each. 2 cubic yards, more or less, gravel or sand refill at 50c. cubic yard. 265 linear feet, more or less, 6-inch pipe underdrain at 20c. linear foot. 1 or more lampholes refilled at \$1 each.	\$454 50	\$544 80

Talbot avenue, between Blue Hill avenue and Helen street, Dorchester.	McCarthy and Walsh * (7 bidders.)	Sept. 24, 1909.	1,634 linear feet, more or less, earth excavation, above grade, for 2-foot 3-inch by 3-foot 6-inch concrete sewer at \$2.77 linear foot. 50 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 25 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 50 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 98,000 feet, board measure, more or less, spruce sheeting at \$20 M. feet. 1,000 feet, board measure, more or less, spruce platforms, etc., at \$50 M. feet. 817 linear feet, more or less, 6-inch pipe underdrain at 20c. linear foot. 817 linear feet, more or less, 8-inch pipe underdrain at 25c. linear foot. 100 cubic yards, more or less, gravel refill at \$1 cubic yard. 700 cubic yards, more or less, Portland cement concrete at \$7 cubic yard. 57, more or less, pipe connections at 50c. each. 10 linear feet, more or less, of old drain rebuilt and reconnected at \$1 linear foot. 7 manholes, more or less, at \$66 each.	Final payment not made.	14,656 00
Standish, Harvard and Greenwood streets, Dorchester.	D. F. O'Connell Company * (5 bidders.)	Sept. 24, 1909.	For excavating and refilling 552 linear feet, more or less, for 6-foot 6-inch concrete surface drain \$9 linear foot. 52 linear feet, more or less, 20-inch drain sewer pipe surface drain in separate trench, including excavating, refilling, etc., at \$2.85 linear foot. 40 linear feet, more or less, 10-inch pipe catch-basin drain at \$1 linear foot. 5 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$2 cubic yard. 5 cubic yards, more or less, extra earth excavation at \$1 cubic yard. 20 cubic yards, more or less, rock excavation at \$4.50 cubic yard.	Final payment not made.	13,339 25

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909=10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Standish, Harvard and Greenwood streets, Dorchester.	D. F. O'Connell Company * . . . (5 bidders.)	Sept. 24, 1909.	552 linear feet, more or less, 6-inch pipe under-drain at 20c. linear foot. 520 cubic yards, more or less, Portland cement concrete at \$6.75 cubic yard. 2 cubic yards, more or less, Portland brick masonry at \$14 cubic yard. 130 linear feet, more or less, 8-inch pipe chimney, including one 8-inch by 6-inch double Y in each chimney at 60c. linear foot. 2 special manholes, more or less, at \$80 each. 2 pipe connections, more or less, at 50c. each. 10 cubic yards, more or less, gravel refill at \$1.25 cubic yard. 10 linear feet, more or less, old drains relaid at \$1 linear foot.		
Saratoga street, between manhole 185 feet east of Austin avenue and point 110 feet easterly, East Boston.	H. M. McBride * (4 bidders.)	Sept. 23, 1909.	1 or more cubic yards earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 1 or more cubic yards extra earth excavation at 75c. cubic yard. 5 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 2,000 feet, board measure, more or less, spruce sheeting at \$25 M. feet. 1 or more cubic yards concrete at \$5 cubic yard. 110 linear feet, more or less, 10-inch pipe sewer at \$1.35 linear foot. 10 linear feet, more or less, 10-inch pipe chimney at 35c. linear foot. 4 linear feet, more or less, old drain rebuilt at 20c. linear foot. 1 or more cubic yards gravel or sand refill at 75c. cubic yard. 10 linear feet, more or less, 6-inch pipe under-drain at 12c. linear foot. 1 or more old manhole inverts rebuilt at \$5 each.	\$290 89	\$212 50

Fenway, between Brookline avenue and Avenue Louis Pasteur, Roxbury.	Andrew M. Cusack * (6 bidders.)	Sept. 24, 1909.	For excavating and refilling 698 linear feet, more or less, of trench for 3-foot 9-inch by 3-foot 9-inch reinforced concrete surface drain, etc., at \$2.85 linear foot. For excavating and refilling 265 linear feet, more or less, of trench for 3-foot diameter concrete surface drain, etc., at \$2.15 linear foot. 10 cubic yards, more or less, earth excavation, below grade, other than for underdrain at \$1 cubic yard. 10 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 5 cubic yards, more or less, rock excavation at \$3 cubic yard. 1 or more cubic yards Portland brick masonry at \$14 cubic yard. 512 cubic yards, more or less, Class A, Portland cement concrete at \$7 cubic yard. 16 cubic yards, more or less, Class B, Portland cement concrete at \$6.75 cubic yard. 8.9 tons, more or less, steel rods or bars at \$45 ton. 46,000 feet, board measure, more or less, spruce sheeting at \$39 M. feet. 35,000 feet, board measure, more or less, spruce platforms, etc., at \$24 M. feet. 14,000 linear feet, more or less, spruce piles at 23c. linear foot. 960 linear feet, more or less, 12-inch pipe house sewer at 80c. linear foot. 964 linear feet, more or less, 8-inch or 6-inch pipe underdrain at 30c. linear foot. 37, more or less, 6-inch pipe connections at 90c. each. 10 linear feet, more or less, old drains removed and relaid at 60c. linear foot. 10 cubic yards, more or less, gravel refill at 50c. cubic yard. 2 manholes, more or less, on pipe house sewer at \$40 each. 1 double manhole on concrete surface drain and pipe sewer at \$80. 1 manhole on old 24-inch brick sewer at \$50.	Final payment not made.	18,030 95
---	------------------------------------	-----------------	--	-------------------------	-----------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Stony brook conduit, Section 6, in Arborway and private land, West Roxbury.	William J. Barry * (9 bidders.)	Sept. 25, 1909.	For excavating and refilling 1,320 linear feet, more or less, for 20-foot by 16-foot reinforced concrete conduit and 2-foot 8-inch by 4-foot concrete sewer, including removal of existing stonework and concrete masonry of present channel, filling to grade and removing bridge in Parkway and providing for the flow of Stony brook at \$30.50 linear foot. 700 cubic yards, more or less, earth excavation, below grade, other than for underdrain at \$2 cubic yard. For excavating and refilling to proposed grade, 85 linear feet, more or less, for 2-foot 9-inch circular concrete conduit at \$1.50 linear foot. 75 cubic yards, more or less, extra earth excavation at \$1 cubic yard. 1,200 cubic yards, more or less, rock excavation at \$4 cubic yard. 628 cubic yards, more or less, brick masonry in Portland hydraulic cement mortar at \$13.50 cubic yard. 5,189 cubic yards, more or less, reinforced Portland cement concrete for arches at \$7 cubic yard. 4,974 cubic yards, more or less, reinforced Portland cement concrete for inverts and side walls at \$7 cubic yard. 26 cubic yards, more or less, Portland cement concrete for 2-foot 9-inch circular conduit at \$7 cubic yard. 216,000 feet, board measure, more or less, 6-inch tongued and grooved Georgia pine sheeting or its equivalent at \$55 M. feet. 10,000 feet, board measure, more or less, 3-inch tongued and grooved Georgia pine sheeting or its equivalent at \$50 M. feet.	Final payment not made.	\$165,894 30

10,000 feet, board measure, more or less, 2-inch
 tongued and grooved spruce sheathing at \$50
 M. feet.
 126,000 feet, board measure, more or less,
 spruce sheathing at \$30 M. feet.
 1,000 feet, board measure, more or less, spruce
 platforms, etc., at \$30 M. feet.
 1,330 linear feet, more or less, 10-inch pipe
 underdrain at 30c. linear foot.
 300 linear feet, more or less, 6-inch pipe under-
 drain at 30c. linear foot.
 30 linear feet, more or less, 15-inch pipe surface
 drain at \$1 linear foot.
 150 linear feet, more or less, 10-inch pipe sur-
 face drain or catch-basin drain at \$1 linear
 foot.
 100 linear feet, more or less, 6-inch pipe house
 drain at \$1 linear foot.
 200 linear feet, more or less, pipe connecting
 existing drains at \$1 linear foot.
 4 catch-basins, more or less, at \$60 each.
 150 pipe connections, more or less, in new con-
 duit at 50c. each.
 For furnishing Portland or Akron pipe, esti-
 mated value of \$1,535, 70 per cent discount
 from standard list price.
 700 cubic yards, more or less, gravel refill at
 \$2 cubic yard.
 For building 25 linear feet, more or less,
 wooden flume at \$4.50 linear foot.
 For underpinning, supporting and protecting
 buildings, etc., on the line of the work, the
 sum of \$100
 261 square yards, more or less, macadam road-
 way at 75c. square yard.
 90 cubic yards, more or less, riprap at \$3
 cubic yard.
 For removing 60 cubic yards, more or less, rip-
 rap \$2 cubic yard.
 22 linear feet, more or less, 12-inch spiral
 riveted pipe, including waterproofing same,
 etc., at \$3 linear foot.

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Stony brook conduit, Section 6, in Arborway and private land, West Roxbury.	William J. Barry * (9 bidders.)	Sept. 25, 1909.	92 linear feet, more or less, 12-inch earthen pipe at \$1 linear foot. 82 linear feet, more or less, 10-inch earthen pipe at \$1 linear foot.		
Marbury terrace, from Amory street to N. Y., N. H. & H. R. R., Roxbury.	John Guarino * (8 bidders.)	Sept. 24, 1909.	2 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 5 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 100 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 2 cubic yards, more or less, concrete at \$7 cubic yard. 356 linear feet, more or less, 10-inch pipe surface drain at 80c. linear foot. 22 linear feet, more or less, 10-inch pipe catch-basin drain at 50c. linear foot. 6 linear feet, more or less, old house drain rebuilt at 50c. linear foot. 1 or more 10-inch pipe slant placed in 17-foot by 15-foot 6-inch conduit at \$5 each. 3 manholes on surface drain at \$25 each. 2 catch-basins, more or less, at \$40 each. 1 or more cubic yards brick masonry at \$14 cubic yard. 1 or more cubic yards gravel or sand refill at \$1.25 cubic yard.	\$476.18 Including extra work amounting to \$13.80.	\$596 05
Alpha road, between Waldeck street and Park street, Dorchester.	Edward F. Kennelly * (5 bidders.)	Sept. 30, 1909.	2 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 10 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 2,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet.	1,034 72	1,240 75

1,000 feet, board measure, more or less, spruce platforms, etc., at \$5 M. feet. 2 cubic yards, more or less, concrete at \$5 cubic yard. 630 linear feet, more or less, 12-inch pipe surface drain at \$1 linear foot. 46 linear feet, more or less, 10-inch pipe catch-basin drain at 70c. linear foot. 10 linear feet, more or less, old house drain rebuilt at 50c. linear foot. For each linear foot of old catch-basin drain rebuilt 75c. linear foot. For each linear foot of old drain rebuilt, other than house and catch-basin drain, \$1 linear foot. 3 manholes on surface drain at \$30 each. 5 catch-basins, more or less, at \$50 each. 2 cubic yards, more or less, gravel or sand refill at 25c. cubic yard. 100 linear feet, more or less, 6-inch pipe under-drain at 1c. linear foot. 1 or more old manhole inverts and walls rebuilt and connected with new surface drain at \$5 each.		Sept. 29, 1909. Coughlan & Shells Company * (6 bidders.) Awarded to second lowest bidder.	25 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$4 cubic yard. 25 cubic yards, more or less, extra earth excavation at \$1.50 cubic yard. 5 cubic yards, more or less, rock excavation at \$5 cubic yard. For excavating and refilling 655 linear feet, more or less, for 3-foot 9-inch by 3-foot 9-inch concrete sewer at \$10 linear foot. 1,000 linear feet, more or less, spruce piles at 30c. linear foot. 30,000 feet, board measure, more or less, spruce sheeting at \$20 M. feet. 9,000 feet, board measure, more or less, spruce platforms, etc., at \$40 M. feet 360 cubic yards, more or less, Class A, Portland cement concrete at \$10 cubic yard.	Final payment not made. 10,091 00
--	--	--	--	---

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
North Market street, between Commercial street and Faneuil Hall square, city proper.	Coughlan & Sheils Company * .. (6 bidders.) Awarded to second lowest bidder.	Sept. 29, 1909.	5 cubic yards, more or less, Class B, Portland cement concrete at \$7 cubic yard. 10 linear feet, more or less, 10-inch pipe catch-basin drain at \$1 linear foot. 80 pipe connections, more or less, at \$1 each. 320 linear feet, more or less, 6-inch or 8-inch pipe house drain at \$1.25 linear foot. 50 linear feet, more or less, old drain removed at \$1 linear foot. 22 cubic yards, more or less, Portland brick masonry at \$18 cubic yard. 25 cubic yards, more or less, gravel refill at \$1.60 cubic yard. 650 linear feet, more or less, for underdrains at 75c. linear foot. For furnishing Portland or Akron pipe, estimated value of \$590 60 per cent from standard list price. 8.5 tons, more or less, steel rods or bars at \$50 ton. 2 catch-basins, or more, cleaned and removed at \$15 each.		
Farquhar street, between South and Centre streets, and outlet between Robert and South streets, West Roxbury.	Antony Cefalo * .. (5 bidders.)	Oct. 7, 1909.	For excavating and refilling 183 linear feet, more or less, for 4-foot concrete conduit at \$4 linear foot. For excavating and refilling 150 linear feet, more or less, for 3-foot 9-inch concrete conduit at \$3.25 linear foot. For excavating and refilling 39 linear feet, more or less, for 3-foot 3-inch concrete conduit at \$2.50 linear foot. 20 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1 cubic yard.	Final payment not made.	\$5,556 45

30 cubic yards, more or less, extra earth excavation at \$1 cubic yard.
75 cubic yards, more or less, rock excavation at \$4.50 cubic yard.
10,000 feet, board measure, more or less, lumber for sheeting at \$25 M. feet.
250 linear feet, more or less, 6-inch pipe under-drain at 20c. linear foot.
100 linear feet, more or less, 8-inch pipe under-drain at 20c. linear foot.
10 cubic yards, more or less, gravel or sand refill at \$1 cubic yard.
210 cubic yards, more or less, Portland cement concrete at \$8 cubic yard.
495 linear feet, more or less, 12-inch pipe surface drain at \$1 linear foot.
925 linear feet, more or less, 15-inch pipe surface drain at \$1.50 linear foot.
96 linear feet, more or less, 10-inch pipe catch-basin drain at \$1 linear foot.
37, more or less, 6-inch pipe connections at 50c. each.
50 linear feet, more or less, old house drain rebuilt and reconnected at 50c. linear foot.
10 linear feet, more or less, old catch-basin rebuilt and reconnected at \$1 linear foot.
10 linear feet, more or less, old drain, other than house or catch-basin, rebuilt and reconnected at \$1 linear foot.
2 manholes, more or less, built on concrete conduit at \$40 each.
8 manholes, more or less, built on pipe surface drain at \$40 each.
9 catch-basins, more or less, at \$50 each.
1 or more connections with stone culvert at \$5 each.
1 connection with old 2-foot 9-inch concrete surface drain at \$5.
2 or more brick bulkheads in new concrete conduit or in old stone culvert at \$10 each.

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Hyde Park avenue, between Hadwin way and Hyde Park line, West Roxbury.	West Roxbury Trap Rock Company.* (5 bidders.)	Oct. 7, 1909.	100 cubic yards, more or less, earth excavation, below grade, other than underdrain, at \$1 cubic yard. 100 cubic yards, more or less, extra earth excavation at \$1 cubic yard. 700 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 10,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 0.5 feet, board measure, more or less, spruce platforms at \$40 M. feet. 25 cubic yards, more or less, concrete at \$6.50 cubic yard. 3,236 linear feet, more or less, 10-inch pipe sewer at 76c. linear foot. 1,332 linear feet, more or less, 24-inch drain sewer pipe surface drain at 70c. linear foot. 151 linear feet, more or less, 18-inch drain sewer pipe surface drain at 50c. linear foot. 590 linear feet, more or less, 15-inch pipe surface drain at 30c. linear foot. 648 linear feet, more or less, 12-inch pipe surface drain at 30c. linear foot. 225 linear feet, more or less, 10-inch pipe surface drain at 45c. linear foot. 100 linear feet, more or less, 10-inch pipe catch-basin drain at 50c. linear foot. 252 linear feet, more or less, 6-inch pipe chimney at 20c. linear foot. 6 linear feet, more or less, 10-inch pipe chimney at 30c. linear foot. 20 linear feet, more or less, old drain rebuilt at \$1 linear foot. 16 manholes built on house sewer at \$45 each. 16 manholes, more or less, on surface drain at \$35 each.	Final payment not made.	\$13,234 10

Porter street, between Frankfort and Cottage streets, East Boston.	Peter W. Hill *..... (6 bidders.)	Oct. 11, 1909.	2, more or less, special connections on house sewer manholes at \$5 each. 1 or more special connections on surface drain manholes at \$5 each. 12 catch-basins, more or less, at \$55 each. 25 cubic yards, more or less, gravel refill at 50c. cubic yard. For furnishing and laying 1,000 linear feet, more or less, 6-inch pipe underdrain at 10c. linear foot. For furnishing and laying 100 linear feet, more or less, 8-inch pipe underdrain at 10c. linear foot. 2 or more manhole inverts rebuilt at \$5 each. For furnishing Portland or Akron pipe, estimated value at \$9,500, 65 per cent discount from standard list price. 353 linear feet, more or less, earth excavation for 7-foot 6-inch by 5-foot 9-inch concrete surface drain, above grade, at \$8.25 cubic yard. 72 linear feet, more or less, earth excavation for 9-foot 9-inch by 7-foot 6-inch concrete surface drain, above grade, at \$9 cubic yard. 10 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 10 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 5 cubic yards, more or less, rock excavation at \$4.50 cubic yard. 14,000 linear feet, more or less, spruce piles at 15c. linear foot. 15,000 feet, board measure, more or less, spruce sheeting at \$25 M. feet. 20,000 feet, board measure, more or less, 6-inch tongued and grooved sheeting, to be furnished, driven and paid for on the written order of the superintendent, at \$30 M. feet. 28,000 feet, board measure, more or less, spruce platforms, etc., at \$35 M. feet.	Final payment not made.	15,011 45
--	--------------------------------------	----------------	--	-------------------------	-----------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Porter street, between Frankfort and Cottage streets, East Boston.	Peter W. Hill * (3 bidders.)	Oct. 11, 1909.	Furnishing and laying 200 linear feet, more or less, 6-inch pipe underdrain at 35c. linear foot. Furnishing and laying 125 linear feet, more or less, 8-inch pipe underdrain at 45c. linear foot. Furnishing and laying 100 linear feet, more or less, 10-inch pipe underdrain at 60c. linear foot. Furnishing and laying 30 linear feet, more or less, 10-inch pipe catch-basin drain at \$1 linear foot. 10 cubic yards, more or less, gravel refill at \$1.50 cubic yard. 750 cubic yards, more or less, Portland cement concrete at \$7.50 cubic yard. 26, more or less, pipe connections at \$1 each. 80 linear feet, more or less, 6-inch pipe chimney at 25c. linear foot. 50 linear feet, more or less, 10-inch pipe chimney at 40c. linear foot. 2 manholes, more or less, at \$35 each. 6 linear feet, more or less, of concrete arch of old surface drain removed and rebuilt at \$4 linear foot.	\$1,285 29	\$1,560 25
Wentworth street, between Norfolk street and Dunbar avenue, Dorchester.	John Guarino * (5 bidders.)	Oct. 13, 1909.	5 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 5 cubic yards, more or less, extra earth excavation at 75c. cubic yard. 50 cubic yards, more or less, rock excavation at \$1 cubic yard. 1,000 feet, board measure, more or less, spruce sheeting at \$22 M. feet. 1,000 feet, board measure, more or less, spruce platform, etc., 1c. M. feet. 2 cubic yards, more or less, concrete at \$5 cubic yard.		

Brookline avenue, between Audubon road and Fenway, Roxbury.	Andrew M. Cusack *..... (5 bidders.)	Oct. 18, 1909.	Furnishing and laying 302 linear feet, more or less, 12-inch pipe sewer at \$1.30 linear foot. Furnishing and laying 295 linear feet, more or less, 15-inch pipe surface drain at \$1.10 linear foot. Furnishing and laying 50 linear feet, more or less, 10-inch pipe catch-basin drain at \$1 linear foot. 10 linear feet, more or less, old house drain rebuilt at \$1 linear foot. For each linear foot old catch-basin drain rebuilt \$1. For each linear foot of old drain rebuilt, other than house and catch-basin drain, the sum of \$1. 4, more or less, 15-inch by 10-inch Y's furnished and placed in old pipe surface drain at \$3 each. 2 manholes, more or less, built on pipe sewer at \$40 each. 2 manholes, more or less, built on surface drain at \$40 each. 5 catch-basins, more or less, at \$50 each. 5 cubic yards, more or less, gravel refill at 1c. cubic yard. 100 linear feet, more or less, 6-inch pipe under-drain at 15c. linear foot. 2, more or less, old manhole inverts, rebuilt at \$5 each. For excavating and refilling 323 linear feet, more or less, for 4-foot 3-inch by 4-foot 3-inch reinforced concrete or 54-inch diameter cast-iron pipe surface drain at \$9 linear foot. 10 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$3.25 cubic yard. 10 cubic yards, more or less, extra earth excavation at \$1 cubic yard. 80 cubic yards, more or less, rock excavation at \$6.50 cubic yard.	6,367 40	Final payment not made.
---	---	----------------	--	----------	-------------------------

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Brookline avenue, between Audubon road and Fenway, Roxbury.	Andrew M. Cusack * (5 bidders.)	Oct. 18, 1909.	2 cubic yards, more or less, Portland brick masonry at \$15 cubic yard. 200 cubic yards, more or less, Class A, Portland cement concrete at \$8 cubic yard. 5 cubic yards, more or less, Class B, Portland cement concrete at \$7 cubic yard. 4.43 tons, more or less, steel rods or bars at \$65 ton. 1.25 tons, more or less, steel I-beams at \$80 ton. 22,000 feet, board measure, more or less, spruce sheeting at \$25 M. feet. 8.4 M. feet, board measure, more or less, spruce platforms, etc., at \$45 M. feet. 3,700 linear feet, more or less, spruce piles at 25c. linear foot. For placing 1 12-foot length 54-inch cast-iron pipe, the sum of \$100. 52 linear feet, more or less, 8-inch pipe under-drain at \$1 linear foot. 248 linear feet, more or less, 10-inch pipe under-drain at \$1.25 linear foot. 2, more or less, 6-inch or 10-inch pipe connections at \$5 each. 10 linear feet, more or less, old drains removed and relayed at \$1 linear foot. 10 cubic yards, more or less, gravel refill at \$1 cubic yard. 3 manholes built on concrete surface drain at \$75 each. 1 Sump manhole, together with 10-inch pipe connections, screen and gate in place, the sum of \$175.		
Kingsdale street, between Talbot avenue and a point 600 feet easterly.	Edward F. Kennelly * (6 bidders.)	Oct. 26, 1909.	80 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.25 cubic yard. 2 cubic yards, more or less, extra earth excavation at 75c. cubic yard.	Final payment not made.	\$2,797 62

1 or more cubic yards rock excavation at \$4.50 cubic yard.
200 linear feet, more or less, spruce piles at 50c. linear foot.
10,000 feet, board measure, more or less, spruce sheeting at \$20 M. feet.
5,000 feet, board measure, more or less, spruce platforms, etc., at \$35 M. feet.
5 cubic yards, more or less, concrete at \$6 cubic yard.
532 linear feet, more or less, 10-inch pipe sewer, furnished and laid, at \$1.60 linear foot.
346 linear feet, more or less, 15-inch pipe surface drain, furnished and laid, at \$1.40 linear foot.
136 linear feet, more or less, 12-inch pipe surface drain, furnished and laid, at \$1.30 linear foot.
120 linear feet, more or less, 10-inch pipe catch-basin drain, furnished and laid, at 75c. linear foot.
For each linear foot old drain rebuilt, other than house and catch-basin drain, at \$1 linear foot.
3, more or less, 18-inch by 10-inch or 12-inch by 10-inch Y's, furnished and placed in old pipe surface drain, at \$6 each.
1 or more 15-inch slants, furnished and placed in old brick sewers or drains, at \$10 each.
2 manholes, more or less, on house sewer at \$36 each.
2 manholes, more or less, on surface drain at \$35 each.
3 D-shaped manholes, more or less, on house sewer at \$42 each.
1 or more old manholes rebuilt at \$26 each.
7 catch-basins, more or less, at \$55 each.
1 or more cubic yards brick masonry at \$14 cubic yard.
80 cubic yards, more or less, gravel refill at 50c. cubic yard.
532 linear feet, more or less, 6-inch pipe under-drain, furnished and laid, at 20c. linear foot.
3, more or less, old manhole inverts and walls rebuilt at \$7 each.

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—Continued.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Whitman street, between Norfolk street and Dunbar avenue, Dorchester.	Dan De Pietro and Caruso *.... (6 bidders.)	Dec. 6, 1909.	2 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at 75c. cubic yard. 5 cubic yards, more or less, extra earth excavation at 65c. cubic yard. 15 cubic yards, more or less, rock excavation at \$5 cubic yard. 1,000 feet, board measure, more or less, spruce sheeting at \$24 M. feet. 1,000 feet, board measure, more or less, spruce platforms at \$20 M. feet. 2 cubic yards, more or less, concrete at \$6 cubic yard. 215 linear feet, more or less, 12-inch pipe sewer, furnished and laid, at \$1.05 linear foot. 47 linear feet, more or less, 12-inch pipe surface drain, furnished and laid, at 75c. linear foot. 52 linear feet, more or less, 10-inch pipe catch-basin drain, furnished and laid, at 95c. linear foot. 1 or more 8-inch pipe chimneys at \$4 each. 10 linear feet, more or less, old house drain rebuilt at 35c. linear foot. For each linear foot of old catch-basin drain rebuilt 90c. For each linear foot of old drain rebuilt, other than house and catch-basin, 75c. 3, more or less, 12-inch by 10-inch Y's, furnished and placed in old pipe surface drain, at \$1.25 each. 1 or more manholes on house sewer at \$58 each. 3, more or less, catch-basins at \$60 each. 5 cubic yards, more or less, gravel refill at \$2.75 cubic yard.	Final payment not made.	\$770 80

Dighton place, from Chestnut Hill avenue westerly, Brighton.	Antony Cefalo * (5 bidders.)	Dec. 6, 1909.	50 linear feet, more or less, 6-inch pipe under-drain, furnished and laid, at 25c. linear foot. 2, more or less, old manhole inverts rebuilt at \$3.50 each.	Final payment not made.	1,007 95
1 or more cubic yards earth excavation, below grade, other than for underdrain, at 25c. cubic yard. 10 cubic yards, more or less, extra earth excavation at 5c. cubic yard. 10 cubic yards, more or less, rock excavation at \$5 cubic yard. 2,000 feet, board measure, more or less, spruce sheathing at \$5 M. feet. 2 cubic yards, more or less, concrete at \$2.50 cubic yard. 300 linear feet, more or less, 10-inch pipe sewer, furnished and laid, at \$1.10 linear foot. 295 linear feet, more or less, 10-inch pipe surface drain, furnished and laid, at \$1 linear foot. 40 linear feet, more or less, 10-inch pipe catch-basin drain, furnished and laid, at 75c. linear foot. 24 linear feet, more or less, 6-inch pipe chimney, furnished and laid, at 25c. linear foot. 10 linear feet, more or less, old drain rebuilt at 5c. linear foot. 1 or more 10-inch by 10-inch Y's, furnished and placed in old pipe sewer or drain, at \$2 each. 2 manholes, more or less, on house sewer at \$40 each. 2 manholes, more or less, on surface drains at \$35 each. 2 catch-basins, more or less, at \$50 each. 5 cubic yards, more or less, gravel refill at 5c. cubic yard. 10 linear feet, more or less, 6-inch pipe under-drain, furnished and laid, at 10c. linear foot.					

* The contractor to furnish all the materials except the ironwork and cut stone.

Sewer Contracts Awarded, 1909-10.—*Concluded.*

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.	Engineer's Preliminary Estimate.
Smith street, from North Harvard street easterly, Brighton.	Antony Cefalo * (4 bidders.)	Dec. 6, 1909.	5 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1.50 cubic yard. 5 cubic yards, more or less, extra earth excavation at 5c. cubic yard. 2 cubic yards, more or less, rock excavation at \$1 cubic yard. 2,000 feet, board measure, more or less, spruce sheeting at \$15 M. feet. 0.5 feet, board measure, more or less, spruce platforms at \$20 M. feet. 1 or more cubic yards concrete at \$5 cubic yard. 325 linear feet, more or less, 10-inch pipe sewer, furnished and laid, at \$1 linear foot. 6 linear feet, more or less, old drain rebuilt at 50c. linear foot. 1 or more 18-inch by 10-inch Y's, furnished and placed in old pipe sewer or drain, at \$3 each. 2 manholes, more or less, at \$40 each. 5 cubic yards, more or less, gravel refill at \$1.50 cubic yard. 325 linear feet, more or less, 6-inch pipe underdrain, furnished and laid, at 15c. linear foot.	Final payment not made.	\$548 00
Catch-basins and connections in Southampton street, from Hilton street to Atkinson street, Roxbury.	Mark H. Lynch * (5 bidders.)	Nov. 11, 1909.	15 cubic yards, more or less, earth excavation, below grade, other than for underdrain, at \$1 cubic yard. 5 cubic yards, more or less, extra earth excavation at 28c. cubic yard. 1 or more cubic yards rock excavation at \$4 cubic yard. 2,000 feet, board measure, more or less, spruce sheeting at \$1 M. feet. 1,000 feet, board measure, more or less, spruce platforms at \$6 M. feet.	Final payment not made.	644 75

Excavating the Canterbury branch of Stony brook, from Canterbury street to Asylum road, West Roxbury.	Coughlan & Sheils Company... (4 bidders.)	Oct. 11, 1909.	10 cubic yards, more or less, concrete at \$6.75 cubic yard. 140 linear feet, more or less, 10-inch pipe catch-basin drain, furnished and laid, at 60c. linear foot. 5, more or less, 12-inch by 10-inch Y's, fur- nished and placed in old pipe sewer or drains, at \$4 each. 1 or more 15-inch Y's, furnished and placed in old pipe sewers or drains, at \$5 each. 6 catch-basins, more or less, at \$60 each. 1 or more cubic yards brick masonry at \$5 cubic yard. 5 cubic yards, more or less, gravel refill at 5c. cubic yard.	3,227 57	2,011 80
---	--	----------------	--	----------	----------

* The contractor to furnish all the materials except the ironwork and cut stone.

CONTRACT.	Awarded to	Dated.	Amount to be Paid.
Excavating about 60 feet of tunnel in Albany street, near Broadway Extension, city proper. The contractor to furnish all labor necessary to excavate and brace tunnel, the city to furnish all lumber necessary; the contractor to be paid the actual cost of labor plus 15 per cent. Unadvertised.	Hugh Nawn Contracting Company.....	July 14, 1909.	\$354 76

Contracts for Repaving and Regulating Awarded, 1909-10.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.
Repaving and regulating over sewer trenches. East Second street, at Emmet street, Granite street, at Sugar House. West First street, Granite to A streets. A street, West First street to Mt. Washington avenue extension, South Boston.	William Higgins.....	Nov. 13, 1909.	About 1,102 square yards of existing granite block paving barred out and relaid with gravel joints at 35c. square yard.	Final payment not made.
Repaving and regulating over sewer trenches. A street, between West First street and Mt. Washington avenue, South Boston.	John E. Burns.....	June 19, 1909.	About 800 square yards granite block paving to be hauled and laid with gravel joints, including excavating at 40c. square yard. About 300 square yards of existing granite block paving, to be barred out and relaid with granite joints at 35c. square yard.	\$431 50

Pile-driving for Sewers Awarded, 1909-10.

CONDUIT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.
Fenway, between Avenue Louis Pasteur and Worthington street, Roxbury.	Rendle & Stoddard.....	Oct. 7, 1909.	Furnishing and driving spruce piles at 12½c. linear foot of pile.	Final payment not made.
Avenue Louis Pasteur, between Fenway and Longwood avenue, Roxbury.	Rendle & Stoddard..... (Unadvertised.)	July 19, 1909.	Furnishing and driving spruce piles at 12c. linear foot of pile.	\$1,390 08
Ashley avenue and private land, between Breed and Leyden streets, East Boston.	Rendle & Stoddard..... (Unadvertised.)	Oct. 6, 1909.	Furnishing and driving spruce piles at 20c. linear foot of pile.	307 20
Leverett street, from Charles street 132 feet west, city proper.	A. A. Hersey..... (Unadvertised.)	Oct. 20, 1909.	Furnishing and driving spruce piles at 17c. linear foot.	250 91

Contracts for Cleaning Catch-basins Awarded, 1909-10.

CONTRACT.	Awarded to	Dated.	Amount Paid per Item.	Amount Paid to Contractor.
South Boston, District No. 1.....	Peter J. Allen.....	Jan. 25, 1909.	Cleaning 900 catch-basins, about 2,700 cubic yards, at \$1.16 cubic yard.	\$3,661 08
Dorchester, District No. 6.....	Peter J. Allen.....	Jan. 25, 1909.	Cleaning 1,000 catch-basins, about 3,000 cubic yards, at 85c. cubic yard.	3,147 49
East Boston, District No. 2.....	J. H. Ferguson.....	Jan. 25, 1909.	Cleaning 400 catch-basins, about 1,200 cubic yards, at \$1.38 cubic yard.	1,940 98
Charlestown, District No. 3.....	James F. Nyhan.....	Feb. 6, 1909.	Cleaning 500 catch-basins, about 1,500 cubic yards, at \$1.30 cubic yard.	2,156 31
Brighton, District No. 4.....	Joseph McGreevey.....	Jan. 25, 1909.	Cleaning 700 catch-basins, about 2,100 cubic yards, at \$1 cubic yard.	2,337 60
West Roxbury, District No. 5.....	Joseph McGreevey.....	Jan. 25, 1909.	Cleaning 800 catch-basins, about 2,400 cubic yards, at \$1 cubic yard.	2,804 40
Roxbury and City Proper, Districts Nos. 7 and 8.....	Joseph McGreevey.....	Jan. 25, 1909.	Cleaning 1,700 catch-basins, about 5,100 cubic yards, at \$1.14 cubic yard.	4,595 55
City Proper, Districts Nos. 9 and 10.....	John W. Collins.....	Feb. 27, 1909.	Cleaning 1,000 catch-basins, about 3,000 cubic yards at \$1.34 cubic yard.	5,939 01

Contracts for Cleaning Sewers Awarded, 1909-10.

CONTRACT.	Awarded to	Dated.	Price per Linear Foot.	Amount Paid to Contractor.
Lowell street, between Causeway and Brighton streets, and Brighton street, between Lowell and Leverett streets, city proper.	Healey Sewer Machine and Construction Company.	April 20, 1909.	25c. linear foot.....	\$16,47 24
Leverett street, between Brighton and Charles streets, and Charles street, between Leverett and Cambridge streets, city proper.	Healey Sewer Machine and Construction Company.	April 20, 1909.	22c. linear foot.....	
Gerard street, between Massachusetts avenue and Kenble street and extension in Gerard street, between Kenble street and Norfolk avenue, Roxbury.	Healey Sewer Machine and Construction Company.	April 20, 1909.	28c. linear foot.....	
Church street, between Tremont and Tennyson streets, and extension in Church street to Columbus avenue, city proper.	Healey Sewer Machine and Construction Company.	April 10, 1909.	25c. linear foot.....	1,731 29
Cambridge street, from Perkins street to the Somerville line, and extension from Perkins street to Sever street, Charlestown.	Richard A. Nagle.....	April 22, 1909.	32½c. linear foot.....	
Canal street, between Causeway and Traverse streets, city proper.	Richard A. Nagle.....	April 22, 1909.	90c. linear foot.....	
Commercial street, between Richmond and Clinton streets, city proper.	Richard A. Nagle.....	April 22, 1909.	70c. linear foot.....	84 20
Charter street, between Unity and Hanover streets, city proper.	Mark H. Lynch.....	April 10, 1909.	29c. linear foot.....	
Canal street, between Traverse street and Haymarket square and extension in Haymarket square and Sudbury street, between Haymarket square and Portland street, city proper.	Richard A. Nagle.....	June 5, 1909.	63c. linear foot.....	1,680 03
Blackstone street, between Hanover and Clinton streets, and extension in Commercial street, between Clinton and State streets, and North Market street, between Blackstone and North Centre streets, city proper.	Richard A. Nagle.....	June 5, 1909.	*61c. linear foot.....	

Haverhill street, between Traverse and Causeway streets, and Portland street, between Hanover and Market streets, and Market street, between Portland and Canal streets.	Mark H. Lynch.....	June 9, 1909.	35c. linear foot.....	141 75
Hanover street, between Friend and Cross streets, city proper.	.....	.....	25c. linear foot.....	
Rutherford avenue, between Baldwin street and 155 feet south of Cambridge street, and extension in Rutherford avenue, from Baldwin street to Metropolitan connection manhole 125.4 feet south of Dunstable street, Charlestown.	Healey Sewer Machine and Construction Company.	June 9, 1909.	15c. linear foot.....	587 00
Beacon street, between B. & A. R. R. and Audubon circle, Back Bay.	.....	.....	14c. linear foot.....	
Pierce Farm sewer, from Asylum road, off Canterbury street, to Washington street, West Roxbury.	Harris C. Porter, Jr.....	June 7, 1909.	9½c. linear foot.....	633 56
First street, between Dorchester avenue and A street.....	Richard A. Nagle.....	Aug. 17, 1909.	20c. linear foot.....	Final payment not made.
Foundry street, between Dorchester avenue and West Fourth street, South Boston.	.....	.....	19½c. linear foot.....	
Stony Brook Valley sewer in Washington street, between South and Morton streets and extension in private land, between Washington and Florence streets, West Roxbury.	Richard A. Nagle.....	Aug. 17, 1909.	21c. linear foot.....	
Stony Brook Valley sewer, from Boylston street through Boylston, Amory, Green, to Call street, Call street to Keyes street, Keyes street to Washington street, Washington street to Morton street and extension in Green street, between Amory and Washington streets, and Keyes street, between South and Call streets.	Richard A. Nagle.....	Aug. 17, 1909.	22c. linear foot.....	
Tremont street, between railroad bridge and Dwight street, city proper.	Healey Sewer Machine and Construction Company.	Aug. 17, 1909.	23c. linear foot.....	\$1,607 56
Paris street, between Maverick and Bennington streets, and extension to Sumner street.	Healey Sewer Machine and Construction Company.	Aug. 17, 1909.	13½c. linear foot.....	
Hayre street, between Maverick and Bennington streets, East Boston.	Healey Sewer Machine and Construction Company.	Aug. 17, 1909.	14½c. linear foot.....	
Hampshire and Ruggles streets, between Whittier street and Shawmut avenue, Roxbury.	Healey Sewer Machine and Construction Company.	Aug. 17, 1909.	35c. linear foot.....	

* Extension of contract dated August 17, 1907.

Contracts for Cleaning Sewers Awarded, 1909-10.—*Concluded.*

CONTRACT.	Awarded to	Dated.	Price per Linear Foot.	Amount Paid to Contractor.
Border street, from Central square 615 feet northerly, East Boston.	Richard A. Nagle.....	Sept. 9, 1909.	15c. linear foot.....	\$465 68
Marginal street, from Jeffries street 1,065 feet westerly, East Boston.	Richard A. Nagle.....	Sept. 9, 1909.	10c. linear foot.....	
Northampton street, between Harrison avenue and Fellows street, and extension to Sheridan square, and in Fellows street, between Northampton and Hunneman streets.	Richard A. Nagle.....	Sept. 9, 1909.	13c. linear foot.....	
St. Germain street, from Dalton street 562.03 feet westerly, Roxbury.	Richard A. Nagle.....	Sept. 9, 1909.	10c. linear foot.....	
Liverpool street, between Central square and Maverick street..	Harris C. Porter, Jr.....	Sept. 9, 1909.	13c. linear foot.....	624 29
London street, between Bennington street and Maverick street, East Boston.	Harris C. Porter, Jr.....	Sept. 9, 1909.	13c. linear foot.....	
Columbus avenue, between West Canton and Dartmouth streets, city proper.	Harris C. Porter, Jr.....	Sept. 9, 1909.	13c. linear foot.....	
Tremont street, between Sterling and Whittier streets, Roxbury.	Harris C. Porter, Jr.....	Sept. 9, 1909.	15c. linear foot.....	
Washington street, between Brattle and Hanover streets, city proper.	Richard A. Nagle.....	Dec. 17, 1909.	20c. linear foot.....	Final payment not made.

Miscellaneous Contracts Awarded, 1909-10.

CONTRACT.	Awarded to	Dated.	Price.
Magnesia covering for live steam pipes on engine No. 3 at the pumping station, Calif Pasture.	H. W. Johns-Manville Company.....	Feb. 12, 1909.	\$135 00
Heater and exhaust piping at the pumping station, Calif Pasture.....	William H. Gallison Company.....	May 8, 1909.	995 00
Furnishing and installing two damper regulators at the pumping station, Calif Pasture.	The Mason Regulator Company.....	June 24, 1909.	210 00
Steel work for west shaft house floor and new cage for west shaft at the pumping station, Calif Pasture.	The Lockwood Manufacturing Company.....	Aug. 2, 1909.	922 00
Furnishing and installing four steel cages for filth hoist at the pumping station, Calif Pasture.	Smith and Lovett Company.....	Oct. 13, 1909.	1,030 00
Furnishing and delivering one rectangular sluice-gate at the pumping station, Calif Pasture. (Unadvertised.)	Coffin Valve Company.....	Oct. 7, 1909.	975 00
Magnesia covering for steam pipes, engines Nos. 3 and 4, pumping station, Calif Pasture.	Ehret Magnesia Manufacturing Company.....	Nov. 19, 1909.	177 57
Furnishing and erecting galvanized-iron ventilators, pumping station, Calif Pasture.	William E. Coe.....	Nov. 26, 1909.	*145 00
Furnishing and delivering sluice-gates and compressed-air rams, Moon Island, 5 sets.	Coffin Valve Company.....	Sept. 30, 1909.	797 00 Per set.
Repairing No. 1 Worthington pump at Calif Pasture pumping station.....	Boston Engineering Company.....	Jan. 20, 1910.	540 00
Covering cold water piping at Calif Pasture pumping station.....	Ehret Magnesia Manufacturing Company.....	Jan. 20, 1910.	450 00
To build one new wagon and repair one old wagon.....	J. J. Walsh & Co.....	June 11, 1909.	205 00

* Final payment not made.

Miscellaneous Contracts Awarded, 1909-10.—*Concluded.*

CONTRACT.	Awarded to	Dated.	Number Feet Centers.	Size.	Shape.	Amount Paid.
Rental of collapsible steel centers	Blaw Collapsible Steel Centering Company.....	July 15, 1909.	50	36 inch.	Half round.	\$75 00

* For six months.

CONTRACT.	Dated.	Awarded to	Rate.
Employees and public liability insurance improved sewerage.....	June 13, 1909, to June 13, 1910.	The Travelers' Insurance Company	\$0.50 per \$100 of wages.* \$0.375 per \$100 of wages.†
Automobile insurance	Sept. 10, 1909, to Sept. 10, 1910.	Federal Insurance Company	\$35 00

* Employees rate.

† Public rate.

CONTRACT.	Dated.	
Lease of stable, Western avenue yard, Brighton, to Thomas J. Shea Company (from six to eight months).	April 1, 1909.	\$25 per month paid to city.
Lease of land on Market street, Brighton, property of Cattle Fair Hotel, Henry D. Bennett, treasurer.	Jan. 19, 1910.	\$12.50 per month paid by the city.

**Summary of Sewer Construction for the Year Ending
January 31, 1910.**

DISTRICT.	Built by the City by Contract or Day Labor.	Built by Private Parties.	Total Length Built.
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>
City Proper	3,208.05	488.13	3,696.18
East Boston	9,616.89	.....	9,616.89
Charlestown	322.40	.....	322.40
South Boston	5,649.75	.....	5,649.75
Roxbury	21,146.27	567.35	21,713.62
West Roxbury	35,607.50	2,466.02	38,073.52
Dorchester	20,236.74	6,715.70	26,952.44
Brighton	5,285.87	1,369.77	6,655.64
Totals	101,073.47	11,606.97	112,680.44

Schedule of Sewers Built to Date in the City of Boston, February 1, 1910.

DISTRICT.	Length of Common Sewers Built During the Year Ending January 31, 1910.	Length of Metropolitan Intercepting Sewers Built During the Year Ending January 31, 1910.	Length of Common Sewers Re- built or Abandoned During the Year Ending January 31, 1910.	Additional Length of Common Sewers for the Year Ending January 31, 1910.		
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper	3,696.18	.....	.....	2,382.90	1,313.28	0.25
East Boston	9,616.89	.....	.....	.....	9,616.89	1.82
Charlestown	322.40	.....	.....	322.40	.....	.....
South Boston	5,649.75	.....	.....	523.75	5,126.00	0.97
Roxbury	21,713.62	.....	.....	1,772.27	19,941.35	3.78
West Roxbury	38,073.52	.....	.....	66.00	38,007.52	7.20
Dorchester	26,952.44	.....	.....	2,784.13	24,168.31	4.58
Brighton	6,655.64	.....	.....	24.00	6,631.64	1.26
Totals	112,680.44	.....	.....	7,875.45	104,804.99	19.86
Total length built previous to January 31, 1909,			6.81	.....	.....	714.86
Totals			6.81	.....	.....	734.72

Length of common sewers	734.72
Length of metropolitan intercepting sewers	6.81
Length of intercepting sewers	24.12
Total	765.65
Total mileage of streets containing sewerage works	482.88

**Summary of Sewer Construction for Five Years Previous to
February 1, 1910.**

	1905.	1906.	1907.	1908.	1909.
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>
Built by the city by contract or day labor.....	160,715.87	103,823.72	79,340.46	53,803.78	101,073.47
Built by private parties....	17,919.17	9,641.49	11,590.87	7,744.30	11,606.97
Totals.....	178,635.04	113,465.21	90,931.33	61,548.08	112,680.44

**Table of Approximate Quantities, Lifts and Duties at Calf Pasture Pumping
Station, 1909-10.**

MONTHS.	Total Pumpage. Gallons.	Average Per Day. Gallons.	Minimum Day. Gallons.	Maximum Day. Gallons.	Average Lift. Feet.	Average Duty, Feet Pounds, per 100 pounds Coal.
1909.						
February.....	3,071,993,000	109,714,000	85,543,000	134,597,000	36.8	69,171,000
March.....	3,431,589,000	110,696,000	92,801,000	150,469,000	37.2	80,080,000
April.....	3,256,176,000	108,539,000	82,273,000	145,477,000	36.8	74,384,000
May.....	3,140,602,000	101,310,000	82,815,000	124,040,000	36.4	77,462,000
June.....	2,815,310,000	93,844,000	78,790,000	126,415,000	36.8	80,683,000
July.....	2,650,459,000	85,499,000	76,988,000	98,037,000	36.7	85,106,000
August.....	2,590,621,000	83,568,000	70,928,000	116,647,000	36.7	85,702,000
September.....	2,839,409,000	94,647,000	69,598,000	143,309,000	36.9	81,796,000
October.....	2,643,416,000	84,303,000	67,264,000	104,988,000	37.1	85,045,000
November.....	2,429,445,000	80,981,000	65,230,000	133,064,000	37.0	86,903,000
December.....	2,772,843,000	89,447,000	68,014,000	141,091,000	36.9	86,778,000
1910.						
January.....	3,531,862,000	113,931,000	92,609,000	150,812,000	37.0	87,468,000
Total.....	35,173,725,000					
Average.....		96,373,000	77,738,000	130,746,000	36.9	*79,921,000

*Average from yearly quantities.
Records from plunger displacement.
Average slip for the year about 12.2 per cent

CALF PASTURE PUMPING STATION.

This plant contains the following sewage pumping units:

One vertical, beam and fly-wheel, triple expansion engine of the Leavitt type; cylinders, $18\frac{1}{2}$ inches, 33 inches, $52\frac{3}{4}$ inches in diameter; two single acting pump plungers, each 60 inches diameter and 120-inch stroke; capacity, 72,000,000 gallons in twenty-four hours with 40-foot lift.

Two vertical, beam and fly-wheel, compound engines of the Leavitt type; cylinders, $25\frac{1}{2}$ inches, 52 inches in diameter; two single acting pump plungers, each 48 inches in diameter and 108-inch stroke; capacity of each engine, 35,000,000 gallons in twenty-four hours with 40-foot lift.

Two horizontal, duplex, tandem-compound engines of the Worthington type; cylinders, 21 inches, 36 inches in diameter; two double acting pump plungers, 45 inches in diameter and 48-inch stroke; capacity of each engine, 25,000,000 gallons in twenty-four hours with 40-foot lift.

Average duty for the year (foot pounds per 100 pounds coal) 79,921,000

Average quantity raised per day (gallons) 96,373,000

Coal used: Various kinds of bituminous, costing from \$3.24 to \$3.56 per gross ton.

COST OF PUMPING.

Average cost per million foot-gallons for pumping:

Volume (35,173.7 million gallons) x (= times) lift (36.9 feet) = 1,297,910 million foot-gallons for the year.

Labor cost included in the totals is based upon the following force of fifty-one men:

One superintendent, one clerk, one storekeeper, one oil man, one electrician, one carpenter, one blacksmith, two machinists, six laborers and four "engineers' watches," each including nine men.

Cost of city water not included.

ITEMS.	Cost.	Cost per Million-foot Gallons.
Labor.....	\$51,095 62	\$0.03937
Coal.....	20,360 01	.01568
Oil and waste.....	1,168 92	.00090
Rubber valves and packing.....	1,375 30	.00106
Miscellaneous supplies and renewals.....	4,423 23	.00341
Totals.....	\$78,423 08	\$0.06042
Labor at screens.....		\$0.00313

It is absolutely necessary that the two old Worthington pumps at the Cow Pasture pumping station be replaced by new ones, and I would recommend that two steam turbine centrifugal pumps, of a capacity of 50,000,000 gallons per day each, be substituted. Approximate cost, \$50,000.

The following are the principal additions, alterations and repairs made during the past year at the Calf Pasture pumping station:

Four new cages in filth hoist, and ventilator on roof of building.

Completed repairs on Nos. 3 and 4 pumps, and put new wooden floor in basement around same.

Erected bridges from north gallery of No. 5 pump and from platform of No. 5 pump to platform of No. 4 pump.

Replaced steam drums with 7-inch expansion bends on Nos. 3 and 4 pumps.

Made following repairs on air pump of No. 5 pump:

New cross-head pin, trued crank pin, rebabbitted both ends of connecting rod, new sleeve on bucket rod, and new bucket and delivery valves.

New auxiliary steam line for steam jacket system for Nos. 3 and 4 pumps.

New system of drip lines in connection with jacket system and low pressure main steam line, including steam traps.

New overboard discharge from No. 5 air pump, from 20-inch line discharging into dock, with gate to shut discharge from gallery.

Put new auxiliary steam main in basement connecting all auxiliaries with boiler mains.

New snap rings in pistons of dynamo engines Nos. 1 and 2, and new steam traps and piping from dynamo engines to separators.

Installed new oil filter and piped oil drip boxes on engines 3 and 4.

Completed new exhaust main line and branches to all auxiliaries connected with new open heater, which replaces old heater, which was inefficient; an exhaust head from the open heater, and the changing of fresh water supply, piping and feed pump suctions in connection with this heater. A new auxiliary heater to furnish water for washing and cleaning purposes.

An injector in connection with storage basin and boilers, for an emergency boiler supply.

A new 4-inch fresh water supply pipe connected for emergency purposes, with condensers on all five pumps, also with reserve connections to general water supply of the station.

Remodelled and straightened cast-iron injection line from injection pumps to condensers.

Changes are being made in location of circulating pumps, with consequent change of piping. All new piping has been covered with non-conducting material. The changes to piping made necessary the removal of large quantities of old, inefficient and unsafe piping.

Installed two new damper regulators. Put two new plungers and glands in two boiler feed pumps.

Built two new flights of steps on the deposit sewer embankment. Replaced two doors and frames in openings of deposit sewer embankment.

New chains on sludge conveyer (south side). Repaired sprocket wheels of conveyer (north side).

Put new cage in west shaft and new floor at high elevation in west shaft house, and two ventilators on the roof.

New tension rods in sludge tank.

Removed old blacksmith shop and tool house, and turned old office building into a blacksmith shop. Laid new floor in stable wash room.

The mile of road over the marsh to the station has been raised 6 inches with cinders from the station.

The driveways on the station grounds have been graded and surfaced with stone dust.

A new sluice gate has been bought to be installed in filth hoist.

Number of gates, regulators, sumps and overflows to be cleaned and cared for. These are under constant inspection and are cleaned after every storm or heavy rise of sewage due to other causes:

DISTRICT.	Gates.	Regulators.	Sumps.	Overflows.
Brighton.....	42	15	17	23
Charlestown.....	24	9	11	12
East Boston.....	47	18	19	26
City Proper.....	88	15	41	42
Dorchester.....	62	2	11	18
South Boston.....	49	4	25	21
Roxbury.....	43	.....	11	20

Number of penstock and flushing gates.....	19
Regulators repaired.....	56
Tide gates repaired.....	228
Manholes repaired.....	90
Manhole steps put in.....	176
Tide gates cleaned.....	7,040
Regulators cleaned.....	3,089
Overflows cleaned.....	342
Sumps cleaned.....	3,212
Penstock and flushing gates cleaned, oiled and repaired.....	57

Average Daily Amount of Sewage Received at Moon Island Reservoir.

	Gallons.
1906	80,241,046
1907	87,661,058
1908	83,376,502
1909	82,378,000

Amount of Sludge Received and Removed from Deposit Sewers from February 1, 1909, to January 31, 1910, Inclusive.

MONTH. ~	Cubic Yards Received.	Cubic Yards Removed.	
1909.			
February	1,048	425	Sludge in sewers February 1, 1909, 1,963 cubic yards.
March	439	680	
April	679	680	
May	583	595	
June	1,207	935	
July	547	850	
August	727	765	
September	1,083	935	
October	654	765	
November	602	510	
December	828	680	
1910.			
January	376	425	Sludge in sewers February 1, 1910, 2,491 cubic yards.
Totals	8,773	8,245	

Estimated Cost per Foot.	Cubic Yards Removed.	Estimated Cost to Contractor per Foot.	Contractor Bid per Foot.	Amount Paid Contractor.	Remarks.
.015	78	\$0.103	\$0.28	\$478 16	Heavy grease and gravel.
.024	57.5	.321	.70	392 39	Water deep.
....	10	.27	.29	84 20	Heavy gravel.
.04	91.5	.493	.90	497 75	Water deep.
.026	60	.181	.25	271 31	Heavy gravel.
.07	318	.69	.25	364 50	
.022	176	.26	.325	841 15	Heavy gravel.
.03	290	.26	.22	533 28	
....	31	.083	.095	633 56	About 2,000 linear feet of roots. Heavy
.03	121	.34	.63	685 27	gravel in spots.
.01	79	.17	.15	421 66	Sewer plugged in spots with heavy gravel.
.027	136.5	.411	.61	994.76	Deep water.
.008	22	.089	.14	165 34	Heavy deposits in spots.
.004	31	.058	.135	480 00	
....	27	.155	.195	202 26	Gas in sewer — man could not stay in long.
.002	39	.206	.20	208 60	Gas in sewer — man could not stay in long
.005	42	.067	.145	377 49	Plugged with rags and gravel.
....	400	.184	.21	1,428 21	Gravel.
.01	30	.127	.10	107 20	Gravel.
....	63	.14	.13	274 04	Heavy mud.
....	16	.234	.15	92 25	Water deep.
.09	635	.47	.35	518 00	
.....		.09	.10	56 20	
....	31	.224	.13	148 72	Heavy mud.
.022	46	.297	.23	232 07	Car tracks and night work.
.009	16	.175	.15	135 75	Material deep in spots.
....	10	.219	.13	65 78	Car tracks and night work.
.004	15	.137	.13	210 03	Wooden sewer with stanks, heavy gravel.
.016	434	.156	.22	2,020 04	Car tracks, heavy gravel and deep water.
.01	8	.28	.20	98 40	Solid grease.

Table Showing Cost of Cleaning Sewers by Contract, 1909-10.

LOCATION.	Contractor.	Date of Start and Finish.	Kind and Size of Sewers.	Lengths of Sewers (Feet).	Labor Cost per Foot.	Teaming Cost per Foot.	Machine Rental Cost per Foot.	Disposal Cost per Foot.	Cubic Yards Removed.	Estimated Cost to Contractor per Foot.	Contractor Bid per Foot.	Amount Paid Contractor.	Remarks.
Gerard street, from Massachusetts avenue to Norfolk street.....	Healey Construction Company.	April 16, 1909, to April 24, 1909.	30" by 36", brick.....	1,707.69	\$0.056	\$0.016	\$0.016	\$0.015	78	\$0.103	\$0.28	\$478 16	Heavy grease and gravel.
Commercial street, from Richmond street to Clinton street.....	R. A. Nagle.....	April 18, 1909, to April 26, 1909.	4' 4" by 3' 3", 4' by 3', wood..	560.55	.185	.056	.056	.024	57.5	.321	.70	392 39	Water deep.
Charter street, from Unity street to Hanover street.....	Mark H. Lynch.....	April 26, 1909, to April 29, 1909.	2' by 2' 3", brick.....	290.35	.171	.076	.023	.....	10	.27	.29	84 20	Heavy gravel.
Canal street, from Causeway street to Traverse street.....	R. A. Nagle.....	April 20, 1909, to May 3, 1909.	4' by 4' 6", wood.....	553.05	.309	.072	.072	.04	91.5	.493	.90	497 75	Water deep.
Church street, from Tremont street to Tennyson street.....	Healey Construction Company.	April 26, 1909, to May 1, 1909.	4' 6" by 4', brick.....	1,085.25	.105	.025	.025	.026	60	.181	.25	271 31	Heavy gravel.
Lowell street and Brighton street, from Causeway street to Brighton street and Lowell street to Leverett street.	Healey Construction Company.	May 30, 1909, to June 1, 1909.	2' 8" by 4' 6", 3' 2" by 4' 9", brick.	1,458.00	.39	.12	.11	.07	318	.69	.25	364 50	
Cambridge street, from Perkins street to Somerville line.....	R. A. Nagle.....	May 3, 1909, to May 18, 1909.	3' 6", circular brick; 24", pipe..	2,558.15	.163	.04	.035	.022	176	.26	.325	841 15	Heavy gravel.
Leverett street and Charles street, from Brighton street to Charles street and Leverett street to Cambridge street.	Healey Construction Company.	May 28, 1909, to June 22, 1909.	3' by 4' 6", brick.....	2,424.00	.142	.042	.046	.03	290	.26	.22	533 28	
Pierce Farm sewer, from Asylum road to Washington street.....	H. C. Porter, Jr.....	June 7, 1909, to Aug. 15, 1909.	15", pipe.....	6,669.00	.053	.016	.016	.....	31	.083	.095	633 56	About 2,000 linear feet of roots. Heavy gravel in spots.
Canal street and Sudbury street, from Travers street to Haymarket square and Portland street to Haymarket square.	R. A. Nagle.....	June 7, 1909, to June 22, 1909.	2' by 2' 3" and 4' by 6", brick; 3' by 3' and 4' by 4', wood; 40", concrete.	1,087.73	.21	.05	.05	.03	121	.34	.63	685 27	
Rutherford avenue, 150 feet south of Cambridge street to point 2,811.02 feet south.	Healey Construction Company.	June 23, 1909, to July 16, 1909.	24" (4' by 3'), 4' by 5' and 5', circular brick.	2,811.02	.10	.03	.03	.01	79	.17	.15	421 66	Sewer plugged in spots with heavy gravel.
Blackstone street, from Hanover street to Clinton street; Clinton street, from Blackstone street to Commercial street; Commercial street, from Clinton street to State street.	R. A. Nagle.....	June 23, 1909, to July 20, 1909.	2' 4" by 3' 6" to 3' 6" by 3.85', brick; 3' 10" by 4' 7" to 5' by 3' 10", wood.	1,630.76	.27	.057	.057	.027	136.5	.411	.61	994.76	Deep water.
Beacon street, from Boston & Albany Railroad to Audubon circle....	Healey Construction Company.	June 25, 1909, to June 29, 1909.	12" and 18", pipe.....	1,181.00	.057	.012	.012	.008	22	.089	.14	165 34	Heavy deposits in spots.
Paris street, from Meridian street to Maverick street.....	Healey Construction Company.	Aug. 16, 1909, to Aug. 26, 1909.	12" and 18", pipe; 16" by 24", 16" by 20" and 20", brick.	3,555.59	.034	.01	.01	.004	31	.058	.135	480 00	
Foundry street, from Dorchester avenue to West Fourth street.....	R. A. Nagle.....	Aug. 23, 1909, to Aug. 30, 1909.	3' by 5', brick.....	1,037.25	.127	.014	.014	.....	27	.155	.195	202 26	Gas in sewer — man could not stay in long.
West First street, from A street to Dorchester avenue.....	R. A. Nagle.....	Aug. 30, 1909, to Sept. 9, 1909.	36" by 48", brick.....	1,043.00	.14	.032	.032	.002	39	.206	.20	208 60	Gas in sewer — man could not stay in long
Havre street, from Maverick street to Bennington street.....	Healey Construction Company.	Aug. 27, 1909, to Sept. 30, 1909.	12", pipe; 2' by 3', brick; 3', wood.	2,603.37	.044	.009	.009	.005	42	.067	.145	377 49	Plugged with rags and gravel.
Stony Brook Valley sewer, from South street to Morton street.....	R. A. Nagle.....	Sept. 8, 1909, to Nov. 16, 1909.	24" by 36" to 36" by 48", brick..	6,801.00	.13	.027	.027	.....	400	.184	.21	1,428 21	Gravel.
Marginal street, from Jeffries street to point 1,072 feet west.....	R. A. Nagle.....	Sept. 13, 1909, to Sept. 20, 1909.	12" and 15", pipe; 12" by 16", 20" by 27", 2' by 3', brick; 3', wood.	1,072.00	.077	.02	.02	.01	30	.127	.10	107 20	Gravel.
London street, from Maverick street to Bennington street.....	H. C. Porter, Jr.....	Sept. 13, 1909, to Sept. 25, 1909.	12", pipe, to 3', wood, and 2' by 3', brick.	2,108.00	.10	.02	.02	.....	63	.14	.13	274 04	Heavy mud.
Border street, from Central square to point 615 feet north.....	R. A. Nagle.....	Sept. 20, 1909, to Sept. 28, 1909.	20" and 24" by 30", brick.....	615.00	.154	.045	.045	.....	16	.234	.15	92 25	Water deep.
Ruggles street and Hampshire street, from Whittier street to Harrison avenue.	Healey Construction Company.	Sept. 17, 1909, to Oct. 12, 1909.	11' by 7' 6", brick.....	1,480.00	.23	.15	.....	.09	635	.47	.35	518 00	
St. Germain street, from Dalton street to point 562.03 feet west.....	R. A. Nagle.....	Sept. 25, 1909, to Sept. 29, 1909.	10", 12", pipe.....	562.03	.05	.02	.02	.....	.....	.09	.10	56 20	
Liverpool street, from Central square to Maverick street.....	H. C. Porter, Jr.....	Sept. 27, 1909, to Oct. 9, 1909.	15", 18", pipe; 2' by 2' 2", brick and wood.	1,144.00	.15	.037	.037	.....	31	.224	.13	148 72	Heavy mud.
Tremont street, from railroad bridge to Dwight street.....	Healey Construction Company.	Oct. 13, 1909, to Oct. 27, 1909.	5' by 4' and 48" by 66", brick..	1,009.00	.193	.041	.041	.022	46	.297	.23	232 07	Car tracks and night work.
Tremont street, from Sterling street to Whittier street.....	H. C. Porter, Jr.....	Oct. 14, 1909, to Oct. 27, 1909.	39" by 24", brick.....	905.00	.104	.031	.031	.009	16	.175	.15	135 75	Material deep in spots.
Columbus avenue, from West Canton street to Dartmouth street.....	H. C. Porter, Jr.....	Oct. 25, 1909, to Nov. 15, 1909.	12", pipe; 2' by 2', brick.....	506.00	.139	.04	.04	.....	10	.219	.13	65 78	Car tracks and night work.
Northampton street and Fellows street, from Fellows street to Harrison avenue and Northampton street to Hunneman street.	R. A. Nagle.....	Oct. 25, 1909, to Nov. 18, 1909.	12", 15", pipe; 12" by 16", wood; 2' 6" by 3', brick.	1,615.59	.089	.022	.022	.004	15	.137	.13	210 03	Wooden sewer with stanks, heavy gravel.
Stony Brook Valley sewer, from Morton street to Boylston street.....	R. A. Nagle.....	Nov. 18, 1909, to Feb. 2, 1910.	30" by 39", 36" by 38", 36" by 48", brick; 42" by 54".	9,182.00	.094	.023	.023	.016	434	.156	.22	2,020 04	Car tracks, heavy gravel and deep water.
Washington street, from Brattle street to Hanover street.....	R. A. Nagle.....	Dec. 20, 1909, to Jan. 7, 1910.	18" by 24", pipe.....	497.00	.19	.04	.04	.01	8	.28	.20	98 40	Solid grease.

**Amount of Refuse Removed from Filth-hoist from February 1, 1909,
to January 31, 1910, Inclusive.**

MONTH.	Pounds.
1909.	
February.....	86,000
March.....	102,000
April.....	91,200
May.....	91,800
June.....	94,200
July.....	97,200
August.....	109,800
September.....	89,100
October.....	105,300
November.....	96,000
December.....	96,300
1910.	
January.....	87,600
	1,146,500=573 tons 500 pounds.

Real Estate in Charge of the Sewer Division.

	ASSESSED VALUATION.	
	Land.	Buildings.
OWNED BY CITY.		
Sewer yard, 678 Albany street, South End.....	\$56,400	\$3,000
Sewer yard, Massachusetts avenue, near Albany street, South End.	8,900	1,100
Sewer yard, Western avenue, Brighton.....	9,200	5,500
Pumping station, Old Harbor Point, Dorchester.....	138,000	700,000
Land, buildings and reservoirs at Moon Island and Squantum.....		
Sewer yard, Child and South streets, West Roxbury. (Occupied in common with Street Department.)....	19,300	3,500
Pumping station, Lyons street. (Land.).....	1,200	
Gatehouse, Back Bay Fens.....		
LEASED.		
Sewer yard, Revere street, West End. (Part of rental paid by this division. Leased J. J. Costello estate from J. Costello. Lease expired July 9, 1909.)		
Sewer yard, East Eagle street, East Boston. (Part of rental paid by this division. Leased from trustees of Glendon Company.).....		
Sewer yard, Old Harbor street and Columbia road, South Boston. (Office building owned by Sewer Division. Leased from estate of Choate Burnham.)	5,200	3,200
Sewer yard, Gibson street, Dorchester. (Buildings erected by Sewer Division. Leased from trustees of Gibson School Fund.).....	7,000	5,000

APPENDIX F.

REPORT OF COMMISSIONER FOR THE BOSTON AND
CAMBRIDGE BRIDGES.

BOSTON, March 1, 1910.

HON. JOHN F. FITZGERALD,

Mayor of the City of Boston:

SIR,—As commissioner for the City of Boston I respectfully submit herewith the annual report of the Boston and Cambridge Bridge Commission.

This commission is composed of two members, one appointed by the Mayor of the City of Boston, the other by the Mayor of the city of Cambridge, under the provisions of chapter 467 of the Acts of 1898. The commission has charge of the care and maintenance of the following-named bridges connecting Boston and Cambridge: Cambridge-River Street, Essex-Brookline Street, North Harvard-Boylston Street, Prison Point, Cambridge, Harvard and Western Avenue Bridges.

As there was no specific appropriation made by the City of Boston for its portion of the expense of the commission during the past year the amount expended was taken from the appropriation for Street Department, Bridge Division, and amounted to \$18,464.72.

Besides the necessary patching and small repairs required from time to time on the several bridges the following work has been done:

Prison Point.—Machinery repaired; new planking on pier.

Harvard Bridge.—The draw was raised, new end girders put in to bear weight of heavy cars; new iron timbers and deck under street railway tracks, new surface planking.

Western Avenue.—This bridge was entirely rebuilt, at an expense of approximately \$6,700, the City of Boston paying one-half of this amount. As the work was not completed at the close of the fiscal year only a portion of the expense comes out of this year's appropriation.

The system of lighting the Cambridge Bridge has been

changed from gas to electricity, and the bridge is now lighted by tungsten lamps, giving a much superior illumination at a reduced cost.

Tungsten lamps have also been installed in place of the former style of incandescent lamps on the Harvard Bridge, resulting in a much better illumination, and at less cost than under the former system.

Several of the bridges in charge of this commission are in very bad shape and must have attention during the coming year if they are to be kept open to travel.

Cambridge-River Street Bridge, especially, is in such a condition that unless repairs are made soon the bridge will have to be closed to street traffic as unsafe. This bridge will have to be practically rebuilt; estimated cost, \$7,500.

Harvard Bridge.—The ironwork of this bridge will have to be cleaned and painted; estimated cost, \$6,400.

North Harvard-Boylston Street Bridge is in an unsafe condition and must be closed to travel unless extensively repaired. The City Engineer estimates \$2,000 as the approximate cost of putting the bridge in a condition of temporary safety.

The matter of a new bridge at this point is still a subject of discussion between the authorities interested, but nothing definite has been determined as yet.

The following is a summary of the estimates of the cost of extraordinary repairs needed during the coming year, submitted by the City Engineer after an examination of the various bridges.

As these items are not included in the regular Highway Division estimate, from which the City of Boston's portion of the expense of the Boston and Cambridge bridges for the coming year will be taken, special appropriations should be made for the purpose.

In each case the estimate is for the total cost of the repairs mentioned. The City of Boston will pay one-half of each item.

<i>Prison Point</i> .—Resheathing, repairs to part of fender pier and new drawtender's house	\$4,000
<i>Cambridge Bridge</i> .—Cleaning and painting metal work beneath central curbs	1,000
<i>Harvard Bridge</i> .—Cleaning and patch painting metal work, followed by one complete coat of paint over whole bridge	\$4,300
; Second complete coat	2,100
	6,400
<i>Carried forward</i>	\$11,400

<i>Brought forward</i>	\$11,400
<i>Brookline Street Bridge</i> .—Resheathing roadway and minor repairs	1,500
<i>Cambridge-River Street Bridge</i> .—General reconstruc- tion similar to that just done at Western Avenue Bridge	7,500
<i>Western Avenue Bridge</i> .—Resheathing (in fall) and repairs to piers and waterways	700
<i>North Harvard-Boylston Street Bridge</i> .—General re- building if bridge is to be kept in service	2,000
	<u>\$23,100</u>

The income for the year amounted to \$25, being one-half the amount received from the Boston Athletic Association for rental of winter location for their boathouse at the Brookline Street Bridge.

A table is appended showing the distribution of the expense of maintaining these bridges for the year 1909, also a table giving a statement of the draw openings for the year.

Respectfully submitted,

GUY C. EMERSON,
Commissioner for the City of Boston.

Statement of Expenditures for the Year 1909.

	Clerical Services.	Inspection.	Postage, Printing, Advertising and Traveling Expenses.	Salaries of Draw- tenders and Caretakers.	General Repairs and Supplies.	Lighting.	Fuel.	Lumber.	Total.
Office expenses and administration.....	\$250 00	*\$792 00	\$83 48	.....	.....	.....	.....	.....	\$1,125 48
Cambridge Bridge.....	.....	.....	.....	\$1,904 07	\$40 07	\$1,612 72	.....	.....	3,556 86
Cambridge-River Street.....	.....	.....	.....	925 16	144 07	45 00	\$10 20	\$57 40	1,181 83
Harvard Bridge.....	.....	.....	.....	2,626 54	1,292 00	951 18	35 12	559 84	5,464 68
Essex-Brookline Street.....	.....	.....	.....	.....	143 39	268 57	.....	183 19	595 15
North Harvard-Boylston Street.....	.....	.....	.....	398 84	385 24	.....	.....	251 74	1,035 82
Prison Point.....	.....	.....	.....	2,510 29	247 62	.....	8 76	143 37	2,910 04
Western Avenue .....	.....	.....	.....	841 16	1,523 24	45 00	.....	185 46	2,594 86
Totals.....	\$250 00	*\$792 00	\$83 48	\$9,206 06	\$3,775 63	\$2,922 47	\$54 08	\$1,381 00	\$18,464 72

* Includes \$344 for expense for inspection incurred during fiscal year 1908.

Boston and Cambridge Bridges.

Draw Openings, February 1, 1909, to January 31, 1910.

	CAMBRIDGE STREET.		HARVARD.		PRISON POINT.		NORTH HARVARD STREET.		WESTERN AVENUE.	
	Number of Openings.	Number of Vessels.	Number of Openings.	Number of Vessels.	Number of Openings.	Number of Vessels.	Number of Openings.	Number of Vessels.	Number of Openings.	Number of Vessels.
February.....					10	17				
March.....	4	6	25	36	25	48	4	6	4	6
April.....	20	34	56	87	26	43	8	12	8	12
May.....	10	16	78	171	20	35	10	16	10	16
June.....	17	27	50	78	23	48	12	19	12	19
July.....	22	38	35	58	22	51	10	15	10	15
August.....	13	27	39	58	22	49	11	24	11	24
September.....	24	41	39	64	18	28	16	26	16	26
October.....	17	43	89	141	23	38	17	43	17	43
November.....	8	14	93	174	21	47	8	14	8	14
December.....	23	38	42	65	16	28	7	10	7	10
January, 1910.....					32	54				
Totals.....	158	284	546	932	258	486	103	185	103	185

APPENDIX G.

REPORT OF THE CIVIL SERVICE CLERK.

BOSTON, February 1, 1910.

MR. GUY C. EMERSON,

Superintendent of Streets:

DEAR SIR,— I submit herewith a report of the work performed in connection with the Civil Service Commission for the year ending January 31, 1910:

Requisitions made	50
Requisitions canceled	2
Certifications returned, no selection made	7
Number of men called for	170
Number of men certified	318
Number of men selected, including veterans	119
Number of veterans appointed	3
Number of men appointed provisionally	8
Applications made for promotion	3
Promotions allowed	3
Requests for permission to reinstate	35
Requests for permission to reinstate allowed	24
Requests for permission to reinstate not allowed	11
Number of men resigned through absence	75
Number of men resigned through absence reinstated	46
Number of men reported to Civil Service Commission as not having worked for more than six months	29
Number of men reported to Civil Service Commission as having resigned	10
Number of men reported to Civil Service Commission as having died	90
Number of discharges forwarded to Civil Service Com- mission	20
Provisional appointments made permanent	17

Number of transfers made from other city and state departments to the Street Department, as follows:

From Transit Commission	2
From Metropolitan Park Department	1
From Metropolitan Water and Sewerage Board	1
From Clerk of Committees Department	1
	5

Number of transfers from the Street Department to other city and state departments, as follows:

To Board of Health	2
To Water Department	6
To Massachusetts Highway Commission	1
	9

Grade and Number of Employees.

TITLE.	DIVISIONS.								
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Lamp.	Total.
Superintendent.....	1								
Deputies.....		1	1	1		1		1	5
Clerks.....	6	26	18	6	5	2	2	1	66
Messengers.....	2	6	1	1	1		1	1	13
Chief engineers (civil).....		1	1						2
Assistant engineers (civil).....		3	18						21
Draughtsmen.....			11						11
Instrumentmen.....			7						7
Rodmen.....		4	21						25
Aids and tallymen.....		2							2
Axeman.....		1							1
Inspectors.....		45	43	39	8			4	139
Foremen.....		9	9	6	9				33
Subforemen.....		37	2		24		3		66
Blacksmiths and assistants.....		9	4	10					23
Blanket repairer.....				1					1
Boilermakers and assistants.....						2			2
Bracers and assistants.....			24						24
Blueprinter.....			1						1
Boys.....					1				1
Chauffeurs.....	1	1	1	1					4
Carpenters and assistants.....		19	10			2	9		40
Chief inspector.....			1	1					2
Cement testers.....			2						2
Coal passers.....			8						8
Cashier.....						1			1
Drawtenders and assistants.....							137		137
Drivers.....		4	2		1		1		8
Deckhands.....						22			22
Dumpers.....				4					4
Engineer (steam).....		17	10		1				28
Engineer (marine).....				1		12			13
Carried forward.....	10	185	195	71	50	42	153	7	713

Grade and Number of Employees.—*Continued.*

TITLE.	DIVISIONS.							
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Lamp.
<i>Brought forward</i>	10	185	195	71	50	42	153	7
Engineer of bridges.....							1	
Electricians.....		1	1			1	1	
Filth-hoist men.....			4					
Firemen.....			8	2	1	34		
Gatemen.....			4			13		
Harnessmakers and assistants.....		1		6				
Horseshoers.....				4				
Hostlers.....			9				1	
Janitors.....		2				5	1	
Janitresses.....						5		
Joiners.....						3		
Laborers and helpers.....		380	303	451	349	6	2	
Lamplighters.....						2		1
Machinists and assistants.....			6			1	1	
Mate.....				1				
Masons (stone and brick).....			5					
Mechanic on scows.....				1				
Oilers.....			12			8		
Oil tester.....			1					
Pavers and assistants.....		56						
Painters.....		2		8		1	5	
Pilots.....				1		11		
Powdermen.....		5						
Quartermasters.....						11		
Roofer.....			1					
Rigger.....						1		
Rammers.....		10						
Supervisor of construction.....							1	
Steam driller.....		2						
Sanitary engineer.....				1				
Stenographers.....		1	2					1
Stonecutters.....		18	1					
<i>Carried forward</i>	10	663	552	546	400	144	166	9

Grade and Number of Employees.—*Concluded.*

TITLE.	DIVISIONS.								
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Lamp.	Total.
<i>Brought forward</i>	10	663	552	546	400	144	166	9	2,490
Superintendent main drainage.....			1						1
Storekeeper.....			1						1
Stockkeeper.....				1		1			2
Scowmen.....				3					3
Stablemen.....		16		29			1		46
Sweeping machine drivers.....					25				25
Teamsters.....		69	24				3		96
Tollmen.....						12			12
Watchmen.....		19	33	1		3	5	1	62
Weighers and assistants.....		6		1					7
Wharfingers and assistants.....		2		1					3
Wheelwrights and assistants.....				5					5
Yardmen.....		1	6						7
Totals.....	10	776	617	587	425	160	175	10	2,760

Comparative Table Showing the Number of Employees February 1, 1909, and February 1, 1910.

	Central Office.	Bridge.	Ferry.	Lamp.	Paving.	Sanitary.	Sewer.	Street Cleaning and Watering	Total.
February 1, 1909..	6	167	162	8	729	628	595	396	2,691
February 1, 1910..	10	175	160	10	776	587	617	425	2,760

Respectfully submitted,

DANIEL R. MURRAY,
Civil Service Clerk.

APPENDIX H.

FORMER SUPERINTENDENTS AND DOCUMENT
NUMBERS OF ANNUAL REPORTS.

Bridge Department before 1891.

Previous to 1886 under charge of City Engineer.

NAME.	Year.
Bartholomew M. Young	1886 to 1889
James H. Nugent	1889 to 1891

Bridge Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report	1886	1887	29
" "	1887	1888	26
" "	1888	1889	29
" "	1889	1890	22
" "	1890	1891	*

* Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Lamp Department before April 6, 1908.

SUPERINTENDENTS.	From	To
William Barnicoat	1854	Feb. 18, 1867
George H. Allen, Acting Superintendent,	Feb. 19, 1867	April 1, 1867
George H. Allen	April 1, 1868	April 2, 1883
Hugh J. Toland	April 2, 1883	April 18, 1884
John T. Manson	April 18, 1884	April 6, 1885
Hugh J. Toland	April 6, 1885	May 1, 1889
George H. Allen	May 1, 1889	June 1, 1891
Patrick O'Shea	June 1, 1891	May 1, 1895
James Buckner	May 1, 1895	Oct. 1, 1896
James Donovan	Oct. 1, 1896	Mar. 1, 1900
Bertrand T. Wheeler, Acting Superin- tendent	Mar. 1, 1900	Mar. 10, 1900
William D. Lang	Mar. 10, 1900	July 28, 1901
William Jackson, Acting Superintendent,	July 28, 1901	Jan. 30, 1902
John Drohan	Jan. 30, 1902	Aug. 10, 1902
James Donovan, Acting Superintendent..	Aug. 10, 1902	Jan. 3, 1906
Charles Logue, Acting Superintendent...	Jan. 3, 1906	Feb. 28, 1906
Dennis J. Hern	Feb. 28, 1906	April 5, 1908
Edward C. Wade, Acting Superintendent,	April 5, 1908	April 6, 1908

Paving Department before 1891.

NAME.	Year.
Enoch Patterson, Superintendent Streets and Drains.....	1825 to 1831
Zephaniah Sampson, " " ".....	1831 to 1846
Thomas Hunting, Superintendent.....	1846 to 1853
Alfred T. Turner, ".....	1853 to 1864
Charles Harris, ".....	1864 to 1883
Nehemiah T. Merritt, ".....	1883
James J. Flynn, ".....	1883
Charles Harris, ".....	1884
Michael Meehan, ".....	1884 to 1886
John W. McDonald, ".....	1886 to 1889
J. Edwin Jones, ".....	1889 to 1891

Paving Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Quarterly report.....	.....	1851	6
Annual report.....	.....	1851	29
" ".....	1851	1852	2
" ".....	1852	1853	6
" ".....	1853	1854	6
" ".....	1854	1855	5
" ".....	1855	1856	3
" ".....	1856	1857	3
" ".....	1857	1858	3
" ".....	1858	1859	5
" ".....	1859	1860	6
" ".....	1860	1861	5
" ".....	1861	1862	4
" ".....	1862	1863	3
" ".....	1863	1864	3
" ".....	1864	1865	7
" ".....	1865	1866	3
" ".....	1866	1867	6
" ".....	1867	1868	9
" ".....	1868	1869	14
" ".....	1869	1870	13
" ".....	1870	1871	12
" ".....	1871	1872	16
" ".....	1872	1873	21
" ".....	1873	1874	25
" ".....	1874	1875	27
" ".....	1875	1876	30
" ".....	1876	1877	38
" ".....	1877	1878	29
" ".....	1878	1879	24
" ".....	1879	1880	24
" ".....	1880	1881	48
" ".....	1881	1882	51
" ".....	1882	1883	47
" ".....	1883	1884	46

Paving Department before 1891.—*Concluded.*

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report.....	1884	1885	97
" ".....	1885	1886	30
" ".....	1886	1887	16
" ".....	1887	1888	23
" ".....	1888	1889	30
" ".....	1889	1890	19
" ".....	1890	1891	*

* Published in annual report, Executive Department Part II., City Document No. 1, 1891.

Sewer Department before 1891.

NAME.	Year.
Enoch Patterson, Superintendent	1825 to 1831
Zephaniah Sampson, ".....	1831 to 1837
Charles B. Wells, ".....	1837 to 1856
Simeon B. Smith, ".....	1856 to 1863
William H. Bradley, ".....	1863 to 1883
Horace A. Moses, ".....	1883 to 1885.
Thomas J. Young, ".....	1885 to 1887
Seth Perkins, ".....	1887 to 1889
Charles Morton, ".....	1889 to 1891

Sewer Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No of Doc.
Annual report.....	1859	1861	11
" ".....	1860	1861	12
" ".....	1861	1862	12
" ".....	1862	1863	13
" ".....	1863	1864	11
" ".....	1864	1865	5
" ".....	1865	1866	6
" ".....	1866	1867	8
" ".....	1867	1868	13
" ".....	1868	1869	11
" ".....	1869	1870	3
" ".....	1870	1871	11
" ".....	1871	1872	10
" ".....	1872	1873	13
" ".....	1873	1874	12
" ".....	1874	1875	17
" ".....	1875	1876	11
" ".....	1876	1877	13
" ".....	1877	1878	15
" ".....	1878	1879	11
" ".....	1879	1880	16

Sewer Department before 1891.— *Concluded.*

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report	1880	1881	19
" "	1881	1882	18
" "	1882	1883	16
" "	1883	1884	43
" "	1884	1885	
" "	1885	1886	58
" "	1886	1887	69
" "	1887	1888	81
" "	1888	1889	129
" "	1889	1890	14
" "	1890	1891	*

* Published in annual report, Executive Department, Part II., City Document No. 1, 1891.

Health Department before 1891.

Sanitary.

NAME.	Year.
Ezra Forristall, Superintendent	1853 to 1854
Joseph W. Coburn, "	1854 to 1855
Ezra Forristall, "	1855 to 1869
George W. Forristall, "	1869 to 1890

Health Department before 1891.

Sanitary.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report	1853	1854	7
" "	1854	1855	6
" "	1855	1856	4
" "	1856	1857	4
" "	1857	1858	4
" "	1858	1859	4
" "	1859	1860	5
" "	1860	1861	6
" "	1861	1862	5
" "	1862	1863	5
" "	1863	1864	4
" "	1864	1865	4
" "	1865	1866	8
" "	1866	1867	7
" "	1867	1868	8
" "	1868	1869	12
" "	1869	1870	4

Health Department before 1891.—*Concluded.*

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report.....	1870	1871	10
“ “	1871	1872	17
“ “	1872	1873	40
Annual reports from 1873 to 1884, inclusive; the superintendent's re- port was embodied in the report of the Board of Health.....	1885	1886	45
Annual report.....	1886	1887	22
“ “	1887	1888	16
“ “	1888	1889	23
“ “	1889	1890	21
“ “	1890	1891	*

* Published in annual report, Executive Department, Part II., City Document No. 1, 1891.

Commissioners of Cambridge Bridges before 1891.

(West Boston, Canal and Prison Point.)

NAME.	Year.
Frederick W. Lincoln, Commissioner for Boston....	{ May 22, 1871, to March, 1891.
Ezra Parmenter, Commissioner for Cambridge.....	
William J. Marvin, Commissioner for Cambridge....	{ June 14, 1871, to Jan. 31, 1883.
	{ March 28, 1883, to 1891.

NOTE.— Harvard Bridge added in 1892. Essex Street, Cambridge Street, North Harvard Street and Western Avenue Bridges to Cambridge were transferred from Street Department July 1, 1898.

Cambridge Bridges before 1891.

(West Boston, Canal and Prison Point.)

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report.....	1871	1872	19
“ “	1872	1873	12
“ “	1873	1874	16
“ “	1874	1875	23
“ “	1875	1876	20
“ “	1876	1877	12
“ “	1877	1878	10
“ “	1878	1879	8
“ “	1879	1880	12
“ “	1880	1881	8

Cambridge Bridges before 1891.—*Concluded.*

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report.....	1881	1882	15
" ".....	1882	1883	15
" ".....	1883	1884	19
" ".....	1884	1885	8
" ".....	1885	1886	12
" ".....	1886	1887	19
" ".....	1887	1888	25
" ".....	1888	1889	22
" ".....	1889	1890	20
" ".....	1890	1891	*

* Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Ferry Department before 1895.

NAME.	Year.	
Board of Ferry Directors.....	1870	1891
William J. Burke, Superintendent.....	1891	May 1, 1895
Thomas Kellough.....	May 1, 1895	July 1, 1895

Ferry Department before 1895.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report.....	1870	1871	41
" ".....	1871	1872	55
" ".....	1872	1873	81
" ".....	1873	1874	42
" ".....	1874	1875	65
" ".....	1875	1876	51
" ".....	1876	1877	53
" ".....	1877	1878	49
" ".....	1878	1879	60
" ".....	1879	1880	74
" ".....	1880	1881	77
" ".....	1881	1882	72
" ".....	1882	1883	93
" ".....	1883	1884	76
" ".....	1884	1885	72
" ".....	1885	1886	28
" ".....	1886	1887	12
" ".....	1887	1888	10
" ".....	1888	1889	3
" ".....	1889	1890	4
" ".....	1890	1891	*
" ".....	1891	1892	12
" ".....	1892	1893	11
" ".....	1893	1894	11
" ".....	1894	1895	11

* Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Street Department since 1891.

Superintendent.

Henry H. Carter, member of American Society Civil Engineers.

Resigned December 8, 1894.

Charles R. Cutter, *Acting Superintendent from December 8, 1894, to January 14, 1895.*

Member of the Boston Society Civil Engineers.

Bertrand T. Wheeler, *Superintendent from January 14, 1895, to February 4, 1896.*

Member of the Boston Society Civil Engineers.

Benjamin W. Wells, *Superintendent from February 4, 1896, to February 1, 1900.*

Bertrand T. Wheeler, *Superintendent from February 2, 1900, to November 25, 1901.*

Member of the Boston Society Civil Engineers.

Resigned November 25, 1901.

William Jackson, *Acting Superintendent from November 25, 1901, to January 14, 1902.*

Member of American Society Civil Engineers.

Guy C. Emerson, *Deputy Superintendent in charge of the department from November 25, 1901, to January 14, 1902.*

Member of American Society Civil Engineers.

Member of the Boston Society Civil Engineers.

James Donovan, *Superintendent from January 14, 1902, to January 2, 1906.*

Resigned January 2, 1906.

Charles Logue, *Acting Superintendent from January 2, 1906, to February 28, 1906.*

James H. Doyle, *Superintendent from March 1, 1906, to January 6, 1908.*

Resigned January 6, 1908.

William Jackson, *Acting Superintendent from January 6, 1908, to April 13, 1908.*

Member of American Society Civil Engineers.

James H. Sullivan, *Executive Engineer in charge of the department from January 6, 1908, to April 13, 1908.*

Guy C. Emerson, *Superintendent from April 14, 1908, to the present time.*

Member of American Society Civil Engineers.

Member of the Boston Society Civil Engineers.

BRIDGE DIVISION.— John A. McLaughlin, *Deputy Superintendent until June 1, 1895.*

BRIDGE DIVISION.— John P. Wise, *Deputy Superintendent from June 1, 1895, to February 14, 1896.*

BRIDGE DIVISION.— William H. Carberry, *Deputy Superintendent from February 14, 1896, to February 3, 1900.*

BRIDGE DIVISION.— Walter Reed, *Deputy Superintendent from February 3, 1900, to January 22, 1902.*

BRIDGE DIVISION.— Joseph P. Lomasney, *Deputy Superintendent from January 22, 1902, to December 30, 1905. Resigned December 30, 1905.*

BRIDGE DIVISION.— Peter O'Neil, *Acting Deputy Superintendent from December 30, 1905, to January 3, 1906.*

BRIDGE DIVISION.— Daniel J. Byrne, *Acting Deputy Superintendent from January 3, 1906, to February 28, 1906.*

BRIDGE DEPARTMENT.— Patrick F. McDonald, *Superintendent from March 1, 1906, to April 5, 1908.*

BRIDGE DEPARTMENT.— Thomas H. Sexton, *Acting Superintendent from April 5, 1908, to April 6, 1908.*

BRIDGE DIVISION.— Thomas H. Sexton, *Acting Deputy Superintendent from April 6, 1908, to July 17, 1908.*

BRIDGE DIVISION.—Thomas H. Sexton, *Deputy Superintendent from July 17, 1908, to February 1, 1909.*

Bridge Division consolidated with the Highway Division February 1, 1909.

FERRY DIVISION.—Thomas Kellough, *Deputy Superintendent from July 1, 1895, to February 14, 1896.*

FERRY DIVISION.—William F. McClellan, *Deputy Superintendent from February 14, 1896, to February 3, 1900.*

FERRY DIVISION.—Joseph J. Dennison, *Deputy Superintendent from February 3, 1900, to January 22, 1902.*

FERRY DIVISION.—William J. Donovan, *Deputy Superintendent from January 22, 1902, to January 3, 1906. Resigned. Acting Deputy Superintendent from January 3, 1906, to February 1, 1906.*

FERRY DIVISION.—Joseph F. Low, *Acting Deputy Superintendent from February 1, 1906, to May 14, 1906.*

FERRY DIVISION.—John J. Douglass, *Deputy Superintendent from May 14, 1906, to March 9, 1907.*

FERRY DIVISION.—James H. Sullivan, *Executive Engineer in charge of division from March 9, 1907, to January 20, 1908.*

FERRY DIVISION.—Henry P. Christiernin, *Deputy Superintendent from January 20, 1908, to the present time.*

LAMP DIVISION.—Edward C. Wade, *Acting Deputy Superintendent from April 6, 1908, to July 17, 1908.*

LAMP DIVISION.—Edward C. Wade, *Deputy Superintendent from July 17, 1908, to the present time.*

PAVING DIVISION.—Charles R. Cutter, *Deputy Superintendent until January 24, 1895,*

PAVING DIVISION.—Darius N. Payson, *Deputy Superintendent from January 24, 1895, to March 1, 1896.*

PAVING DIVISION.—John L. Kelly, *Deputy Superintendent from March 1, 1896, to February 3, 1900.*

PAVING DIVISION.—Darius N. Payson, *Deputy Superintendent from February 3, 1900, to January 24, 1902.*

PAVING DIVISION.—Joshua Atwood, 3d, *Acting Deputy Superintendent from January 24, 1902, to March 26, 1902.*

PAVING DIVISION.—Henry V. Macksey, *Deputy Superintendent from March 26, 1902, to December 2, 1905. Resigned December 2, 1905.*

* PAVING DIVISION.—James H. Sullivan, *Acting Deputy Superintendent from December 2, 1905, to February 28, 1906.*

PAVING DIVISION.—James H. Sullivan, *Acting Deputy Superintendent from April 6, 1908, to July 17, 1908.*

PAVING DIVISION.—James H. Sullivan, *Deputy Superintendent from July 17, 1908, to the present time.*

SANITARY DIVISION.—George W. Forristall,† *Deputy Superintendent.*

SANITARY DIVISION.—Philip A. Jackson, *Acting Deputy Superintendent from January 16, 1894, to February 1, 1895.*

SANITARY DIVISION.—Charles A. Young, *Deputy Superintendent from February 1, 1895, to March 1, 1896.*

SANITARY DIVISION.—Patrick O'Shea, *Deputy Superintendent from March 1, 1896, to February 3, 1900.*

* For period from February 28, 1906, to April 6, 1908, see Street Department since 1891, page 476.

† Died January 12, 1894.

- SANITARY DIVISION.—Charles A. Young, *Deputy Superintendent from February 3, 1900, to January 22, 1902.*
- SANITARY DIVISION.—Daniel P. Sullivan, *Deputy Superintendent from January 22, 1902, to January 3, 1906. Resigned. Acting Deputy Superintendent from January 3, 1906, to March 1, 1906.*
- SANITARY DEPARTMENT.—Daniel H. Gillespie, *Superintendent from March 1, 1906, to April 6, 1908.*
- SANITARY DIVISION.—Daniel H. Gillespie, *Acting Deputy Superintendent from April 6, 1908, to May 8, 1908.*
- SANITARY DIVISION.—George H. Foss, *Acting Deputy Superintendent from May 8, 1908, to May 25, 1908.*
- SANITARY DIVISION.—George H. Foss, *Deputy Superintendent from May 25, 1908, to the present time.*
- SEWER DIVISION.—Henry W. Sanborn, *Deputy Superintendent until July 10, 1896. Member of Philadelphia Society Civil Engineers.*
- SEWER DIVISION.—Charles R. Cutter, *Deputy Superintendent from July 10, 1896, to February 3, 1900. Member of the Boston Society Civil Engineers.*
- SEWER DIVISION.—Guy C. Emerson, *Deputy Superintendent from February 3, 1900, to November 25, 1901, and from January 14 to January 22, 1902. Member of American Society Civil Engineers, Member of the Boston Society Civil Engineers.*
- SEWER DIVISION.—Henry W. Sanborn, *Acting Deputy Superintendent from November 25, 1901, to January 14, 1902. Member of Philadelphia Society Civil Engineers.*
- SEWER DIVISION.—George Phillips, *Deputy Superintendent from January 22, 1902, to January 3, 1906. Resigned.*
- SEWER DIVISION.—George Phillips, *Acting Deputy Superintendent from January 3, 1906, to January 18, 1906.*
- SEWER DIVISION.—Edgar S. Dorr, *Acting Deputy Superintendent from January 18, 1906, to March 1, 1906.*
- SEWER DEPARTMENT.—John J. Leahy, *Superintendent from March 1, 1906, to January 10, 1908.*
- SEWER DEPARTMENT.—Charles R. Cutter, *Acting Superintendent from January 13, 1908, to April 24, 1908.*
- SEWER DIVISION.—Charles R. Cutter, *Acting Deputy Superintendent from April 24, 1908, to February 1, 1909.*
- SEWER DIVISION.—C. Barton Pratt, *Deputy Superintendent from February 1, 1909, to the present time.*
- STREET CLEANING DIVISION.—Philip A. Jackson, *Deputy Superintendent until March 22, 1895.*
- STREET CLEANING DIVISION.—Benjamin M. Cram, *Deputy Superintendent from March 22, 1895, to March 1, 1896.*
- STREET CLEANING DIVISION.—Joshua Atwood, 3d, *Deputy Superintendent from March 1, 1896, to February 3, 1900. Member of the Boston Society Civil Engineers.*
- STREET CLEANING DIVISION.—Frank H. Haynes, *Deputy Superintendent from February 3, 1900, to April 16, 1901. Resigned April 16, 1901.*
- STREET CLEANING DIVISION.—Frank C. Shepard, *Deputy Superintendent from April 16, 1901, to January 22, 1902.*
- STREET CLEANING DIVISION.—Joseph J. Norton, *Deputy Superintendent from January 22, 1902, to January 3, 1906. Resigned. Acting Deputy Superintendent from January 3, 1906, to March 1, 1906.*

* STREET CLEANING AND WATERING DEPARTMENT.—Matthew Cummings, *Superintendent from March 1, 1906, to January 16, 1908.*

Daniel H. Gillespie, *Acting Superintendent from January 16, 1908, to April 6, 1908.*
Acting Deputy Superintendent from April 6, 1908, to April 15, 1908.

† STREET CLEANING AND WATERING DIVISION.—C. Barton Pratt, *Deputy Superintendent from April 15, 1908, to February 1, 1909.*

STREET WATERING DIVISION.—M. Edward Libby, *Deputy Superintendent from March 6, 1895, to March 1, 1896.*

STREET WATERING DIVISION.—Thomas J. Finneran, *Deputy Superintendent from March 1, 1896, to February 3, 1900.*

STREET WATERING DIVISION.—Frederick Hammond, *Deputy Superintendent from February 3, 1900, to January 22, 1902.*

* STREET WATERING DIVISION.—Ambrose Woods, *Deputy Superintendent from January 22, 1902, to January 3, 1906. Resigned.*
Acting Deputy Superintendent from January 3, 1906, to March 1, 1906.

BOSTON AND CAMBRIDGE BRIDGES.—Henry H. Carter, *ex officio, Commissioner for Boston, until December 8, 1894.*

Charles R. Cutter, *ex officio, Acting from December 8, 1894, to January 14, 1895.*

Bertrand T. Wheeler, *ex officio, from January 14, 1895, to February 4, 1896.*

Benjamin W. Wells, *from February 4, 1896, to February 2, 1900; ex officio, to May 26, 1898.‡*

Bertrand T. Wheeler, *from February 2, 1900, to November 25, 1901.*

Guy C. Emerson, *from November 25, 1901, to January 14, 1902.*

James Donovan, *from January 14, 1902, to October 28, 1904.*

Joseph P. Lomasney, *from October 28, 1904, to December 30, 1905.*

Peter O'Neil, *December 30, 1905, to January 3, 1906.*

Charles Logue, *from January 3, 1906, to March 1, 1906.*

Patrick F. McDonald, *from March 1, 1906, to April 5, 1908.*

Thomas H. Sexton, *from April 5, 1908, to May 1, 1908.*

Guy C. Emerson, *from May 1, 1908, to the present time.*

William J. Marvin, *Commissioner for Cambridge to July 22, 1904.§*

George M. Clukas, *from July 26, 1904, to December 19, 1907.*

William H. Joyce, *from December 19, 1907, to April 17, 1909.*

Francis J. Smith, *from April 17, 1909, to the present time.*

* March 1, 1906, Street Watering Division consolidated with the Street Cleaning Division under title of Street Cleaning and Watering Department.

† February 1, 1909, the Street Cleaning and Watering Division was consolidated with the Sanitary Division under title of Sanitary Division.

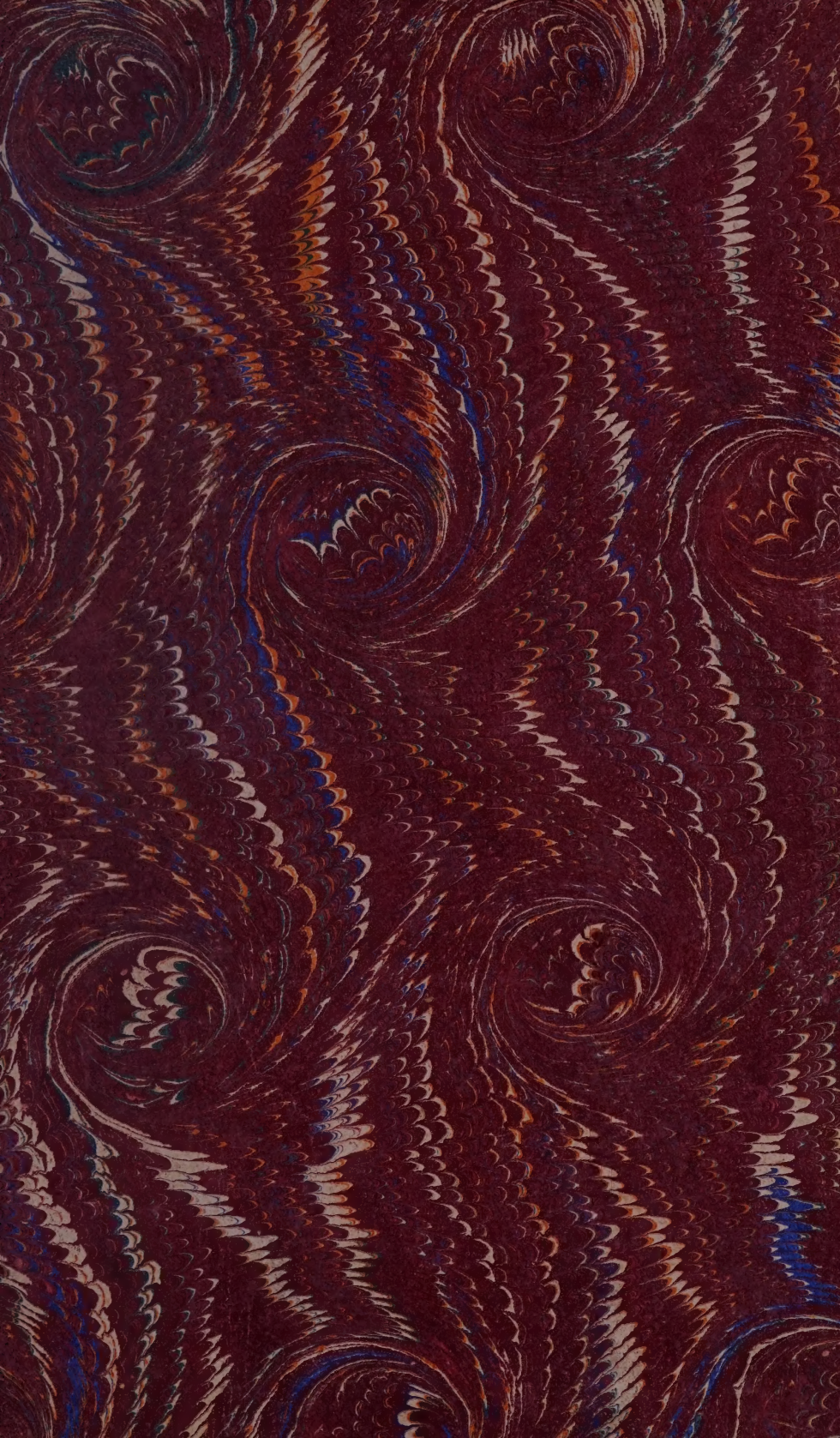
‡ See chapter 467, Acts of 1898.

§ Died July 22, 1904.

Street Department.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report, Executive Dept., Part II. . . .	1891	1892	36
“ “ “ “ “	1892	1893	34
“ “ “ “ “	1893	1894	34
“ “ “ “ “	1894	1895	34
“ “ “ “ “	1895	1896	29
“ “ “ “ “	1896	1897	29
“ “ “ “ “	1897	1898	34
“ “ “ “ “	1898	1899	35
“ “ “ “ “	1899	1900	38
“ “ “ “ “	1900	1901	38
“ “ “ “ “	1901	1902	38
“ “ “ “ “	1902	1903	40
“ “ “ “ “	1903	1904	40
“ “ “ “ “	1904	1905	40
“ “ “ “ “	1905	1906	40
“ “ “ “ “	1906	1907	42
“ “ “ “ “	1907	1908	42
“ “ “ “ “	1908	1909	38
“ “ “ “ “	1909	1910	35







3 0112 115704691